A 281.9
Ag 83E

ERS 514

SELECTED U.S. CROP BUDGETS
Yields, Inputs, and Variable Costs

Volume VI
Southwest Region

U.S. DEPARTMENT OF AGRICULTURE ECONOMIC RESEARCH SERVICE

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

ABSTRACT

This report contains estimates of variable costs of producing major irrigated field crops in seven production areas of the Southwest Region of the United States. The crops are upland cotton, American-Pima cotton, barley, grain sorghum, corn, wheat, alfalfa hay, and safflower. Budgets show the quantity and value of specific preharvest and harvest inputs, total preharvest and harvest costs per harvested acre, and total variable costs per harvested acre. Data concerning crop yields and rates of fertilization are also included.

Keywords: Field crops, crop costs, crop budgets, production costs, Southwest.

Washington, D.C. 20250

April 1973

CONTENTS

	Page
Introduction	1
Production Areas	1
Assumptions and Definitions	3
Average Costs	3
Variable Costs	3
1970 Prices and Yields	4
Harvested vs. Planted Acres	4
Sources of Data	5
Crop Yields	5
Inputs and Costs	6
Enterprise Budgets	7
Crop Prices	7
Summary Tables of Production and Variable Costs	8
Budget Tables	
Upland Cotton	11
American-Pima Cotton	25
Barley	30
Grain Sorghum	38
Corn for Grain	47
Wheat	48
Alfalfa Hay	56
Safflower	65
Table--Upland Cotton Varieties Planted, Quality of Cotton Produced, and Prices Received, Southwest Region	67
Table--Prices Received by Farmers for Feed Grains, Wheat, and Alfalfa Hay	68
Table--Counties and Resource Situations in APAT Production Areas, Southwest Region	69
Literature Cited	70

SELECTED U.S. CROP BUDGETS
Yields, Inputs, and Variable Costs
Volume VI--Southwest Region

by

Walter W. Pawson, Agricultural Economist
Farm Production Economics Division
Economic Research Service

INTRODUCTION

This report is one of a set presenting estimates of variable costs of producing major crops in different regions of the United States. In addition to this publication on the Southwest, reports have been issued on the Southeast, North Central, Great Plains, Northwest, and South Central Regions (fig. 1).

These budgets were developed by the Farm Production Economics Division of the Economic Research Service, USDA, specifically for use in its Aggregate Production Analysis System (APAS). 1/ Similar assumptions and methodology were used in estimating the data in all six regions. Consequently, the budgets provide comparable estimates of crop yields and variable production costs for 1970 both within and among the major crop-producing areas of the United States.

These reports are primarily for the use of other analysts and researchers; the budgets include only variable costs and are not intended to represent total production costs. Input items in the budgets are expressed in both physical and monetary terms. The budgets are a key data input to APAS and can be adjusted--in terms of physical levels, price levels, or both--to reflect up-to-date information.

Geographic coverage, assumptions, and definitions are detailed in subsequent sections.

PRODUCTION AREAS

The Southwest Region is composed of the States of California, Arizona, New Mexico, and Nevada. Within this region, there are seven cotton-production

1/ This system is designed to provide estimates of response in aggregate production and in resource use to changes in costs, prices, resource availabilities, and Government programs. For a description and analysis of the system and its organization see: W. Neill Schaller, "A National Model of Agricultural Production Response," Agr. Econ. Res. 20(2), Apr. 1968; and Jerry A. Sharples and W. Neill Schaller, "Predicting Short-Run Aggregate Adjustment to Policy Alternatives," Amer. Jour. Agr. Econ. 50(5), Dec. 1968.

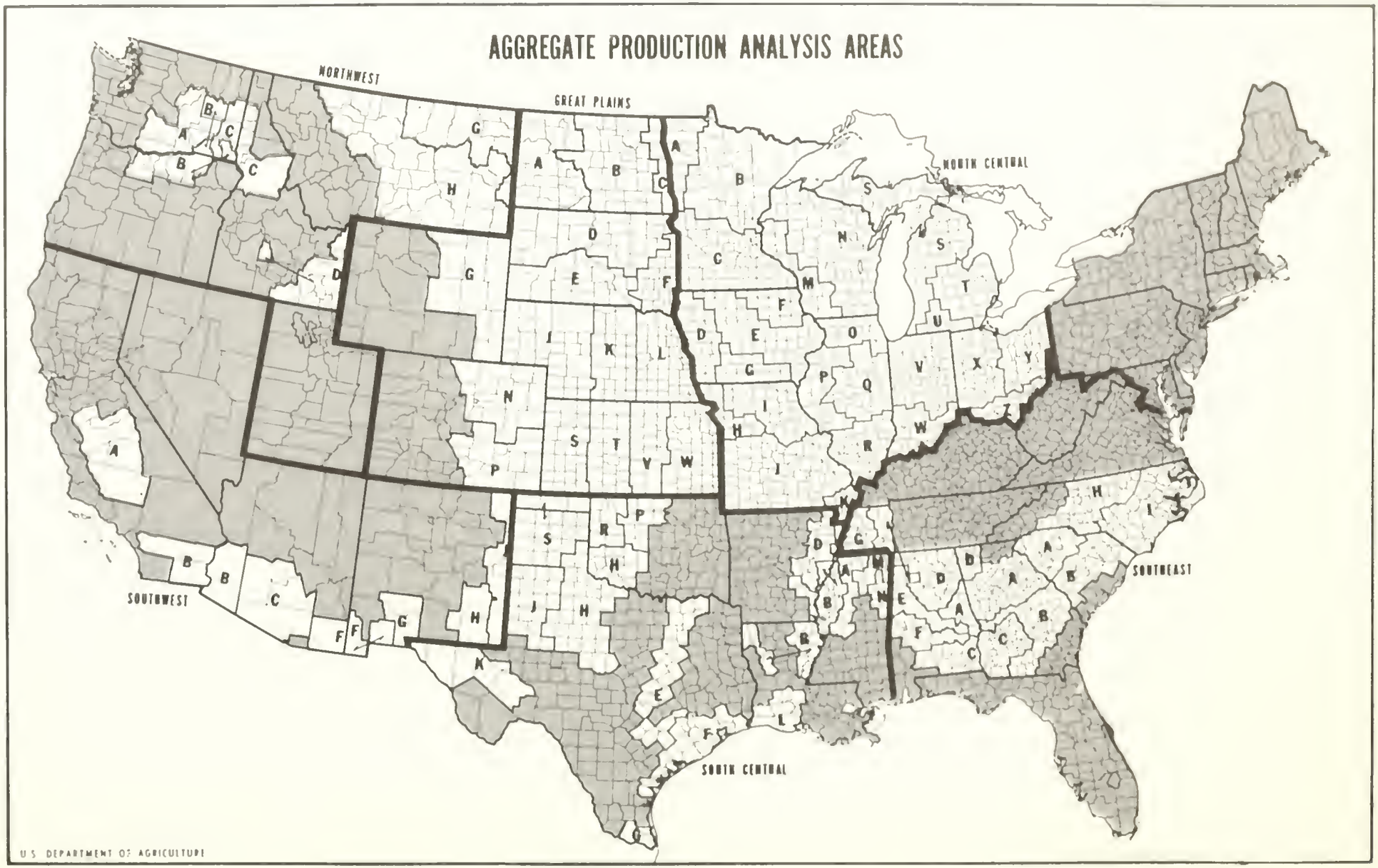
AGGREGATE PRODUCTION ANALYSIS AREAS
NORTHWEST
GREAT PLAINS
NORTH CENTRAL
SOUTHWEST
SOUTH CENTRAL
SOUTHEAST
U.S. DEPARTMENT OF AGRICULTURE

Figure 1

areas, each consisting of counties that are relatively homogenous with respect to factors such as climate, crops grown, crop yields, and availability and cost of irrigation water. To improve homogeneity, specific resource situations within some of the areas were defined. These resource situations differ from each other in terms of availability and cost of irrigation water, size of farms, or soil productivity. The production areas and resource situations in the Southwest are as follows (see fig. 1 and table 63):

Area A. San Joaquin Valley Cotton Area (California):
  1. Eastside
  2. Westside
  3. Central Kern County
Area B. Low Desert (California and Arizona)
Area C. Central Arizona
Area F. High Southern Desert (Arizona and New Mexico)
Area G. Rio Grande Valley (New Mexico)
Area H. Pecos Valley (New Mexico)
Area J. High Plains (New Mexico):
  1. Curry County
  2. Counties other than Curry

Data in this report pertain to the major irrigated field crops grown in these areas. These crops are upland cotton, American-Pima cotton, barley, grain sorghum, corn, wheat, alfalfa hay, and safflower. The relative importance of the different crops varies from area to area. In some areas, intensive crops such as fruits, nuts, grapes, vegetables, potatoes, and sugar beets are also grown, but data concerning these crops are not included in this report.

ASSUMPTIONS AND DEFINITIONS

Average Costs

The crop budgets reflect mean costs rather than modal or typical costs in that the estimates relate to such things as mean fertilizer and pesticide practices and average cost experience for all production in the respective production areas or resource situations. Harvesting costs are the weighted average costs of all important harvesting methods used in the respective areas. For example, the budgets show both custom harvesting and harvesting by owned equipment; the share of each depends on the average ratio for the crop in the area. The budgets reflect estimates of average yields and costs for the particular area or resource situation; that is, they represent average production from average-size farms using average technology and management practices.

Variable Costs

The budgets were developed mainly for use in estimating short-term (1 year ahead) aggregate adjustments which would occur in response to selected

price and policy changes. Consequently, only costs that are variable in the short run are included in the budgets. Among the excluded overhead and fixed costs are depreciation, interest, insurance, and taxes on farm machinery and equipment and irrigation facilities; interest and taxes on land; and farm overhead expenses. Such costs may be considered fixed during each crop year and do not affect the choice of crops.

Operator labor is usually considered a fixed-cost item in the short run. However, no differentiation between operator labor and hired labor is made in these budgets. The budgets include all direct labor involved in producing the crops. It is assumed that the reservation price for labor performed by farm operators is the same as the prevailing wage rate for hired farm labor. Hence, all labor is charged at the prevailing wage rate, including social security taxes and workmen's compensation insurance costs.

In addition to the labor shown, some labor was furnished by operators of custom machines. The variation in the proportion of a crop that is custom harvested accounts for some of the variation in the budgeted labor requirements for harvesting crops.

1970 Prices and Yields

The budgets reflect the production practices that farmers followed in 1970. Input prices are those that prevailed in 1970, including sales taxes where applicable. Crop yields are not actual 1970 yields, but estimated yields that would have prevailed in 1970 assuming average or normal weather.

Harvested vs. Planted Acres

In the irrigated areas of the Southwest, a high percentage of the acreage planted is harvested; therefore yields and costs in this report are expressed on a harvested acre basis. Budgeted costs include expenditures made on the very small percentage of the acreage that is planted but not harvested. Because of high harvesting percentages, there is little difference between budgeted costs presented on a harvested acre basis compared with budgeted costs presented on a planted acre basis. Some users of these budgets may want to convert harvested acre yields and costs as shown in this report to a planted acre basis. This can be done by multiplying harvested acre yields and costs by the

harvesting percentage. The estimated average harvesting percentages for the irrigated crops presented in this report are as follows: 2/

Area	Cotton	Barley or wheat for grain	Grain sorghum	Corn for grain	Safflower
A. San Joaquin Valley Cotton Area:					
1. Eastside	98	98	99	100	--
2. Westside	98	95	--	--	95
3. Central Kern County	98	97	99	--	--
B. Low Desert	98	99	98	--	--
C. Central Arizona	99	99	98	--	98
F. High Southern Desert	97	97	99	--	--
G. Rio Grande Valley	97	98	99	--	--
H. Pecos Valley	95	98	99	--	--
J. High Plains	89	98	99	--	--

SOURCES OF DATA

Crop Yields

Estimates of yields are based on historical acreages and production reported by USDA's Statistical Reporting Service (SRS), where available. Yields of alfalfa hay and safflower in California are based on U.S. Census data. The SRS data represent average yields over a period of three or more recent years. Where there has been a significant upward trend in yields in recent years, the linear trend value for 1970 is used as the yield. Alfalfa hay yields were adjusted to take into consideration the hay equivalent of production utilized for green-chop, silage, or seed. For areas in which a significant proportion of the cotton acreage is grown in skip-row planting patterns, the area average yields are adjusted to reflect relative differences in yields by planting patterns, based on previous research (20). 3/ Yields by resource situations in the San Joaquin Valley take into consideration not only county data but also differences in relative soil productivity as estimated by Schaller and Dean (24).

The percentage of planted acreage that is harvested is based on SRS data, except in the case of small grains. Percentages for barley and wheat are based primarily on Agricultural Extension Service estimates.

2/ In tables, a dash (--) means not applicable.

3/ Underscored numbers in parentheses refer to Literature Cited at the end of this report.

Inputs and Costs

The Economic Research Service conducted a nationwide survey to determine the cost of producing upland cotton in 1969 (25). Detailed input and production cost data supplied by 575 farmers in California, Arizona, and New Mexico in connection with that survey are the primary source of information for the cotton budgets. Input prices and wage rates were updated to 1970.

The cost of hail insurance represents the net cost of such insurance to farmers as a group, based on the premiums paid by farmers (as reported in the 1969 USDA cotton cost survey) less normal insurance indemnities paid to farmers, calculated at 60 percent of the cost of premiums (as reported by Jones (6)).

The quantity of irrigation water used per acre is based on research investigations concerning consumptive use of water by crops (1, 4, 5, 14, 16), and takes into consideration precipitation and estimated irrigation efficiency. Costs per acre-foot for irrigation water are based on studies of the cost of pumping irrigation water (15, 17, 19), supplemented by data supplied by farmers in the 1969 USDA cotton cost survey concerning the cost per acre of water for irrigating cotton.

The costs per hour for power and equipment used for preharvest operations are based on data by Reed (21) for the types and sizes of machinery found on farms in the Southwest, as reported by farmers in the 1969 USDA cotton cost survey. Costs for use of mechanical cotton harvesters are those reported by farmers in that survey, while costs of machinery for harvesting other crops are based on data by Reed (21).

Data concerning the use of pesticides on crops in California counties in 1970 are from records compiled by the California State Department of Agriculture. Data collected by USDA and the University of Arizona concerning use of pesticides on cotton in Central Arizona (2) were also used.

Prices of plant nutrients per pound are based on prices paid by farmers for various kinds of fertilizer materials, as reported by SRS. Prices are weighted by the estimated proportion of the nutrients from various sources.

The budgets for feed grains, wheat, alfalfa hay, and safflower are based on secondary-source data. Among the sources of data are published and unpublished cost estimates prepared by the Agricultural Experiment Stations and Agricultural Extension Services of the several States (3, 7-13, 18, 22, 23, 26). Heavy reliance was placed on data obtained by interviewing county agricultural agents and other Agricultural Extension Service personnel, agricultural research workers, and dealers concerning current production practices and costs. The respective percentages of grain acreage harvested by custom operators and by farmers with their own equipment are based on a mail survey by SRS. The budgets for alfalfa reflect the cost of producing baled hay, and do not take into consideration the cost of cubing.

ENTERPRISE BUDGETS

Enterprise budgets were developed for the major irrigated field crops grown in each area. Data from these budgets are presented in two forms. Tables 1-4 summarize estimated yields and total variable costs per acre and per unit of production for each crop, by areas. Tables 5-60 present details concerning the estimated cost of producing each crop in each area. The detailed budgets show the quantity, price, and value of specific preharvest and harvest inputs, total preharvest and harvest costs, total variable costs, and crop yields per acre. The detailed budgets are arranged in the same sequence in which they appear in the summary tables.

CROP PRICES

The prices that Southwestern farmers receive for their crops differ among areas. For example, because of variations in climate, different varieties of upland cotton are grown throughout the Region. The San Joaquin Valley produces Acala SJ-1 cotton, which has a strong, high-quality fiber that commands a premium over the U.S. average price. The High Southern Desert, Rio Grande Valley, and Pecos Valley produce Acala 1517 varieties, a type of cotton with an exceptionally long fiber that also commands a premium price. In the Low Desert and in Central Arizona, Deltapine 16 and other rainbelt varieties are grown; these produce cotton of average quality and price. The High Plains of New Mexico is a transition area that produces both high-quality Acala 1517 cotton and High Plains stripper varieties that produce fiber of very short staple length. Table 61 shows the principal varieties of upland cotton planted, the quality of cotton produced, and the prices received by farmers for cotton in each area in 1969.

Farmers in the Southwest receive considerably higher prices for feed grains, wheat, and alfalfa hay than the average for all U.S. farmers (table 62). The region has to import grain from other States. The geographic pattern of grain prices in the Southwest shows increases from east to west, reflecting differentials in transportation costs of grain to the west coast.

Table 1 --Summary of production and variable costs for cotton

Area and resource situation	Budget table number	Yield per harvested acre		Total variable costs	
		Lint	Cotton-seed	Per harvested acre	Per pound of lint 1/
Upland cotton:		Pounds	Tons	Dollars	Cents
Area A. San Joaquin Valley Cotton Area:					
1. Eastside:					
Solid plant	5	760	0.67	178.00	18.7
2. Westside:					
Solid plant	6	970	.86	222.42	18.2
2 x 1 skip-row	7	1210	1.07	284.64	18.8
3. Central Kern County:					
Solid plant	8	900	.80	185.67	15.9
2 x 1 skip-row	9	1125	1.00	235.33	16.2
Area B. Low Desert:					
Solid plant	10	1040	.91	259.77	20.4
2 x 1 skip-row	11	1300	1.14	335.66	21.3
Area C. Central Arizona:					
Solid plant	12	940	.79	246.35	21.8
4 x 1 skip-row	13	1060	.89	283.83	22.4
Area F. High Southern Desert:					
Solid plant	14	730	.62	175.84	19.3
2 x 1 skip-row	15	910	.77	218.80	19.3
Area G. Rio Grande Valley:					
Solid plant	16	650	.55	149.71	18.3
Area H. Pecos Valley:					
Solid plant	17	650	.55	143.95	17.4
Area J. High Plains:					
2.Counties other than Curry:					
Solid plant	18	425	.38	108.52	20.5
American-Pima cotton:					
Area C. Central Arizona:					
Solid plant	19	400	.41	224.33	50.8
4 x 1 skip-row	20	450	.46	259.70	52.4
Area F. High Southern Desert:					
Solid plant	21	500	.47	170.14	28.8
2 x 1 skip-row	22	625	.58	212.76	28.8
Area G. Rio Grande Valley:					
Solid plant	23	420	.40	144.65	29.1

1/ Total variable cost minus value of cottonseed divided by pounds of lint per harvested acre, assuming the following average 1962-71 prices per ton for cottonseed: Area A, $53.00; Areas B & C, $52.00; Areas F, G, H, and J2, $56.00.

Table 2 --Summary of production and variable costs for feed grains

Area and resource situation	Budget table number	Yield per harvested acre	Total variable costs	
			Per acre	Per bushel
Barley:		Bushels	Dollars	Dollars
Area A. San Joaquin Valley Cotton Area:				
1. Eastside	24	51	42.33	0.83
2. Westside	25	64	52.99	.83
3. Central Kern County	26	56	49.24	.88
Area B. Low Desert	27	70	58.03	.83
Area C. Central Arizona	28	74	64.19	.87
Area F. High Southern Desert	29	72	65.21	.91
Area G. Rio Grande Valley	30	62	50.22	.81
Area H. Pecos Valley	31	59	45.96	.78
Grain sorghum:				
Area A. San Joaquin Valley Cotton Area:				
1. Eastside	32	63.5	60.77	.96
3. Central Kern County	33	67	66.81	1.00
Area B. Low Desert	34	66	67.51	1.02
Area C. Central Arizona	35	62	68.28	1.10
Area F. High Southern Desert	36	92	88.51	.96
Area G. Rio Grande Valley	37	65	57.03	.88
Area H. Pecos Valley	38	73	60.27	.83
Area J. High Plains:				
1. Curry County	39	103	73.96	.72
2. Counties other than Curry	40	66	56.07	.85
Corn for grain:				
Area A. San Joaquin Valley Cotton Area:				
1. Eastside	41	87	85.22	.98

Table 3 --Summary of production and variable costs for wheat

Area and resource situation	Budget table number	Yield per harvested acre	Total variable costs	
			Per acre	Per bushel
		Bushels	Dollars	Dollars
Area A. San Joaquin Valley Cotton Area:				
1. Eastside	42	48	40.96	0.98
2. Westside	43	60	58.72	.98
3. Central Kern County	44	53	54.35	1.03
Area B. Low Desert	45	67	64.87	.97
Area C. Central Arizona	46	66	73.26	1.11
Area F. High Southern Desert	47	62	68.78	1.11
Area J. High Plains:				
1. Curry County	48	53.5	54.45	1.02
2. Counties other than Curry	49	44	47.33	1.08

Table 4 --Summary of production and variable costs for alfalfa hay and safflower

Area and resource situation	Budget table number	Yield per harvested acre	Total variable costs	
			Per acre	Per ton
Alfalfa hay:		Tons	Dollars	Dollars
Area A. San Joaquin Valley Cotton Area:				
1. Eastside	50	6.0	91.99	15.33
2. Westside	51	6.0	122.12	20.35
3. Central Kern County	52	6.9	111.11	16.10
Area B. Low Desert	53	6.5	107.88	16.60
Area C. Central Arizona	54	6.0	126.46	21.08
Area F. High Southern Desert	55	4.7	104.50	22.23
Area G. Rio Grande Valley	56	5.2	76.28	14.67
Area H. Pecos Valley	57	6.0	88.98	14.83
Area J. High Plains:				
2. Counties other than Curry	58	4.5	82.91	18.42
Safflower:				
Area A. San Joaquin Valley Cotton Area:				
2. Westside	59	1.1	70.72	64.29
Area C. Central Arizona	60	1.25	90.77	72.62

Table 5 --Cotton, upland, solid plant: Estimated inputs and variable costs, Area A1, Eastside, San Joaquin Valley Cotton Area

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	5.7	2.25	12.82
Irrigator	do.	6.8	2.00	13.60
Hand thin and weed	--	--	--	12.00
Seed	Pound	28.	.16	4.48
Fertilizer:				
Nitrogen (N)	do.	100.	.09	9.00
Phosphorus (P_2O_5)	do.	30.	.105	3.15
Potash (K_2O)	do.	5.	.05	.25
Manure, gypsum	--	--	--	1.50
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	5.4	1.40	7.56
Equipment lubricants and repairs	do.	5.4	1.00	5.40
Truck fuel, lubricants, and repairs	--	--	--	3.00
Insecticides and fungicides	Acre	1.6	4.50	7.20
Herbicides	do.	.8	5.25	4.20
Custom hire:				
Pesticide application	do.	1.5	2.15	3.22
Other operations	do.	.75	3.00	2.25
Irrigation water	Acre Foot	3.8	3.50	13.30
Hail insurance	--	--	--	.25
Interest on operating expenses:				
$103.18 for 7 months at 7 percent	--	--	--	4.23
Total preharvest costs	--	--	--	107.41
Harvest costs:1/				
Labor:				
Machine operator	Hour	3.7	2.25	8.32
Power and equipment:				
Mechanical harvester fuel, lubricants, and repairs	--	--	--	10.25
Truck fuel, lubricants, and repairs	--	--	--	1.00
Custom hire:				
Apply defoliant	Acre	1.1	2.75	3.02
Mechanical picking and hauling	Pound	190.	.05	9.50
Other expenses:				
Defoliant	Acre	1.1	2.25	2.48
Ginning, bagging, and ties	Bale	1.58	22.80	36.02
Total harvest costs	--	--	--	70.59
Total variable costs per harvested acre	--	--	--	178.00

Yield of lint per harvested acre	760 pounds
Yield of cottonseed per harvested acre	.67 ton

1/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Mechanical picker, owned equipment	75
Mechanical picker, custom hire	25

Table 6 --Cotton, upland, solid plant: Estimated inputs and variable costs, Area A2, Westside, San Joaquin Valley Cotton Area

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Machine operator	Hour	5.2	2.25	11.70
Irrigator	do.	7.2	2.00	14.40
Hand thin and weed	--	--	--	6.00
Seed	Pound	31.	.155	4.80
Fertilizer:				
Nitrogen (N)	do.	160.	.08	12.80
Phosphorus (P_2O_5)	do.	30.	.095	2.85
Manure, gypsum	--	--	--	1.50
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	4.7	1.80	8.46
Equipment lubricants and repairs	do.	4.7	1.15	5.40
Truck fuel, lubricants, and repairs	--	--	--	2.00
Insecticides and fungicides	Acre	3.5	4.50	15.75
Herbicides	do.	.9	4.75	4.28
Custom hire:				
Pesticide application	do.	3.6	2.15	7.74
Other operations	do.	1.5	2.50	3.75
Irrigation water	Acre Foot	4.0	9.00	36.00
Hail insurance	--	--	--	.50
Interest on operating expenses:				
$137.93 for 7 months at 7 percent	--	--	--	5.66
Total preharvest costs	--	--	--	143.59
Harvest costs: 1/				
Labor:				
Machine operator	Hour	3.3	2.25	7.42
Power and equipment:				
Mechanical harvester fuel, lubricants, and repairs	--	--	--	6.75
Truck fuel, lubricants, and repairs	--	--	--	1.00
Custom hire:				
Apply defoliant	Acre	1.1	2.75	3.02
Mechanical picking and hauling	Pound	242.	.05	12.10
Other expenses:				
Defoliant	Acre	1.1	2.25	2.48
Ginning, bagging, and ties	Bale	2.02	22.80	46.06
Total harvest costs	--	--	--	78.83
Total variable costs per harvested acre	--	--	--	222.42

Yield of lint per harvested acre 970 pounds
Yield of cottonseed per harvested acre .86 ton

1/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Mechanical picker, owned equipment	75
Mechanical picker, custom hire	25

Table 7 --Cotton, upland, 2 x 1 skip-row: Estimated inputs and variable costs, Area A2, Westside, San Joaquin Valley Cotton Area

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	7.8	2.25	17.55
Irrigator	do.	9.0	2.00	18.00
Hand thin and weed	--	--	--	6.00
Seed	Pound	31.	.155	4.80
Fertilizer:				
Nitrogen (N)	do.	160.	.08	12.80
Phosphorus (P_2O_5)	do.	30.	.095	2.85
Manure, gypsum	--	--	--	2.25
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	7.0	1.80	12.60
Equipment lubricants and repairs	do.	7.0	1.15	8.05
Truck fuel, lubricants, and repairs	--	--	--	3.00
Insecticides and fungicides	Acre	5.25	4.50	23.62
Herbicides	do.	1.35	4.75	6.41
Custom hire:				
Pesticide application	do.	5.4	2.15	11.61
Other operations	do.	2.2	2.50	5.50
Irrigation water	Acre Foot	5.0	9.00	45.00
Hail insurance	--	--	--	.60
Interest on operating expenses:				
$180.64 for 7 months at 7 percent	--	--	--	7.41
Total preharvest costs	--	--	--	188.05
Harvest costs:1/				
Labor:				
Machine operator	Hour	3.5	2.25	7.88
Power and equipment:				
Mechanical harvester fuel, lubricants, and repairs	--	--	--	6.75
Truck fuel, lubricants, and repairs	--	--	--	1.15
Custom hire:				
Apply defoliant	Acre	1.65	2.75	4.54
Mechanical picking and hauling	Pound	302.	.05	15.10
Other expenses:				
Defoliant	Acre	1.65	2.25	3.71
Ginning, bagging, and ties	Bale	2.52	22.80	57.46
Total harvest costs	--	--	--	96.59
Total variable costs per harvested acre	--	--	--	284.64

Yield of lint per harvested acre	1210 pounds
Yield of cottonseed per harvested acre	1.07 tons

1/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Mechanical picker, owned equipment	75
Mechanical picker, custom hire	25

Table 5 --Cotton, upland, solid plant: Estimated inputs and variable costs, Area A3, Central Kern County, San Joaquin Valley Cotton Area

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Machine operator	Hour	4.7	2.25	10.58
Irrigator	do.	7.2	2.00	14.40
Hand thin and weed	--	--	--	6.00
Seed	Pound	19.	.165	3.14
Fertilizer:				
Nitrogen (N)	do.	160.	.085	13.60
Phosphorus (P_2O_5)	do.	30.	.10	3.00
Manure, gypsum	--	--	--	1.50
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	4.5	1.70	7.65
Equipment lubricants and repairs	do.	4.5	1.15	5.18
Truck fuel, lubricants, and repairs	--	--	--	3.00
Insecticides and fungicides	Acre	2.1	5.50	11.55
Herbicides	do.	.6	4.75	2.85
Custom hire:				
Pesticide application	do.	2.4	2.15	5.16
Other operations	do.	.5	2.75	1.38
Irrigation water	Acre Foot	4.0	5.50	22.00
Hail insurance	--	--	--	.75
Interest on operating expenses:				
$111.74 for 7 months at 7 percent	--	--	--	4.58
Total preharvest costs	--	--	--	116.32
Harvest costs: 1/				
Labor:				
Machine operator	Hour	4.1	2.25	9.22
Power and equipment:				
Mechanical harvester fuel, lubricants, and repairs	--	--	--	8.50
Truck fuel, lubricants, and repairs	--	--	--	1.25
Custom hire:				
Apply defoliant	Acre	1.1	2.75	3.02
Mechanical picking and hauling	Pound	45.	.045	2.02
Other expenses:				
Defoliant	Acre	1.1	2.25	2.48
Ginning, bagging, and ties	Bale	1.88	32.80	61.66
Total harvest costs	--	--	--	69.35
Total variable costs per harvested acre	--	--	--	185.67

Yield of lint per harvested acre	900 pounds
Yield of cottonseed per harvested acre	.8 ton

1/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Mechanical picker, owned equipment	95
Mechanical picker, custom hire	5

Table 9 --Cotton, upland, 2 x 1 skip-row: Estimated inputs and variable costs, Area A3, Central Kern County, San Joaquin Valley Cotton Area

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	7.0	2.25	15.75
Irrigator	do.	9.0	2.00	18.00
Hand thin and weed	--	--	--	6.00
Seed	Pound	19.	.165	3.14
Fertilizer:				
Nitrogen (N)	do.	160.	.085	13.60
Phosphorus (P_2O_5)	do.	30.	.10	3.00
Manure, gypsum	--	--	--	2.25
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	6.8	1.70	11.56
Equipment lubricants and repairs	do.	6.8	1.15	7.82
Truck fuel, lubricants, and repairs	--	--	--	4.50
Insecticides and fungicides	Acre	3.15	5.50	17.32
Herbicides	do.	.9	4.75	4.28
Custom hire:				
Pesticide application	do.	3.6	2.15	7.74
Other operations	do.	.8	2.75	2.20
Irrigation water	Acre Foot	5.0	5.50	27.50
Hail insurance	--	--	--	1.00
Interest on operating expenses:				
$145.66 for 7 months at 7 percent	--	--	--	5.97
Total preharvest costs	--	--	--	151.63
Harvest costs:1/				
Labor:				
Machine operator	Hour	4.3	2.25	9.68
Power and equipment:				
Mechanical harvester fuel,lubricants, and repairs	--	--	--	8.50
Truck fuel, lubricants,and repairs	--	--	--	1.40
Custom hire:				
Apply defoliant	Acre	1.65	2.75	4.54
Mechanical picking and hauling	Pound	56.	.045	2.52
Other expenses:				
Defoliant	Acre	1.65	2.25	3.71
Ginning, bagging,and ties	Bale	2.34	22.80	53.35
Total harvest costs	--	--	--	83.70
Total variable costs per harvested acre	--	--	--	235.33

Yield of lint per harvested acre	1125 pounds
Yield of cottonseed per harvested acre	1.0 ton

1/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Mechanical picker, owned equipment	95
Mechanical picker, custom hire	5

Table 10 --Cotton, upland, solid plant: Estimated inputs and variable costs, Area B, Low Desert

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Machine operator	Hour	4.9	2.15	10.54
Irrigator	do.	9.6	1.90	18.24
Hand thin and weed	--	--	--	8.00
Seed	Pound	19.	.20	3.80
Fertilizer:				
Nitrogen (N)	do.	260.	.08	20.80
Phosphorus (P_2O_5)	do.	70.	.10	7.00
Manure, gypsum	--	--	--	.75
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	4.6	1.70	7.82
Equipment lubricants and repairs	do.	4.6	1.10	5.06
Truck fuel, lubricants, and repairs	--	--	--	2.50
Insecticides and fungicides	Acre	8.5	3.65	31.02
Herbicides	do.	1.2	5.75	6.90
Custom hire:				
Pesticide application	do.	8.7	2.10	18.27
Other operations	do.	1.6	3.00	4.80
Irrigation water	Acre Foot	6.0	2.50	15.00
Hail insurance	--	--	--	.75
Interest on operating expenses:				
$101.25 for 7 months at 7 percent	--	--	--	6.61
Total preharvest costs	--	--	--	167.86
Harvest costs: 1/				
Labor:				
Machine operator	Hour	3.4	2.15	7.31
Power and equipment:				
Mechanical harvester fuel, lubricants, and repairs	--	--	--	6.75
Truck fuel, lubricants, and repairs	--	--	--	1.00
Custom hire:				
Apply defoliant	Acre	1.1	2.25	2.48
Mechanical picking and hauling	Pound	416.	.045	18.72
Mechanical scrapping and hauling	do.	42.	.08	3.36
Other expenses:				
Defoliant	Acre	1.1	3.75	4.12
Ginning, bagging, and ties	Bale	2.17	22.20	48.17
Total harvest costs	--	--	--	91.91
Total variable costs per harvested acre	--	--	--	259.77

Yield of lint per harvested acre	1040 pounds
Yield of cottonseed per harvested acre	.91 ton

1/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Mechanical picker, owned equipment	52
Mechanical picker, custom hire	40
Mechanical scrapper, owned equipment	4
Mechanical scrapper, custom hire	4

Table 11 --Cotton, upland, 2 x 1 skip-row: Estimated inputs and variable costs, Area B, Low Desert

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	7.4	2.15	15.91
Irrigator	do.	12.0	1.90	22.80
Hand thin and weed	--	--	--	8.00
Seed	Pound	19.	.20	3.80
Fertilizer:				
Nitrogen (N)	do.	260.	.08	20.80
Phosphorus (P_2O_5)	do.	70.	.10	7.00
Manure, gypsum	--	--	--	1.12
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	6.9	1.70	11.73
Equipment lubricants and repairs	do.	6.9	1.10	7.59
Truck fuel, lubricants, and repairs	--	--	--	3.75
Insecticides and fungicides	Acre	12.75	3.65	46.54
Herbicides	do.	1.8	5.75	10.35
Custom hire:				
Pesticide application	do.	13.0	2.10	27.30
Other operations	do.	2.4	3.00	7.20
Irrigation water	Acre Foot	7.5	2.50	18.75
Hail insurance	--	--	--	1.00
Interest on operating expenses:				
$213.64 for 7 months at 7 percent	--	--	--	8.76
Total preharvest costs	--	--	--	222.40
Harvest costs:1/				
Labor:				
Machine operator	Hour	3.6	2.15	7.74
Power and equipment:				
Machine harvester fuel, lubricants, and repairs	--	--	--	6.75
Truck fuel, lubricants, and repairs	--	--	--	1.15
Custom hire:				
Apply defoliant	Acre	1.65	2.25	3.71
Mechanical picking and hauling	Pound	520.	.045	23.40
Mechanical scrapping and hauling	do.	52.	.08	4.16
Other expenses:				
Defoliant	Acre	1.65	3.75	6.19
Ginning, bagging, and ties	Bale	2.71	22.20	60.16
Total harvest costs	--	--	--	113.26
Total variable costs per harvested acre	--	--	--	335.66

Yield of lint per harvested acre	1300 pounds
Yield of cottonseed per harvested acre	1.14 tons

1/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Mechanical picker, owned equipment	52
Mechanical picker, custom hire	40
Mechanical scrapper, owned equipment	4
Mechanical scrapper, custom hire	4

Table 12 --Cotton, upland, solid plant: Estimated inputs and variable costs, Area C, Central Arizona

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Machine operator	Hour	7.6	2.10	15.96
Irrigator	do.	10.8	1.70	18.36
Hand thin and weed	--	--	--	2.50
Seed	Pound	17.	.20	3.40
Fertilizer:				
Nitrogen (N)	do.	175.	.08	14.00
Phosphorus (P_2O_5)	do.	35.	.10	3.50
Manure, gypsum	--	--	--	.50
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	6.8	1.60	10.88
Equipment lubricants and repairs	do.	6.8	1.05	7.14
Truck fuel, lubricants, and repairs	--	--	--	3.00
Insecticides and fungicides	Acre	8.3	2.60	21.58
Herbicides	do.	1.4	5.00	7.00
Custom hire:				
Pesticide application	do.	8.6	1.40	12.04
Other operations	do.	.6	2.00	1.20
Irrigation water	Acre Foot	4.9	1/	37.19
Hail insurance	--	--	--	2.00
Interest on operating expenses:				
$160.24 for 7 months at 7 percent	--	--	--	6.57
Total preharvest costs	--	--	--	166.81
Harvest costs: 2/				
Labor:				
Machine operator	Hour	3.3	2.10	6.93
Power and equipment:				
Mechanical harvester fuel, lubricants, and repairs	--	--	--	8.25
Truck fuel, lubricants, and repairs	--	--	--	1.00
Custom hire:				
Apply defoliant	Acre	1.0	2.10	2.10
Mechanical picking and hauling	Pound	310.	.04	12.40
Mechanical scrapping and hauling	do.	38.	.075	2.85
Other expenses:				
Defoliant	Acre	1.0	2.50	2.50
Ginning, bagging, and ties	Bale	1.96	22.20	43.51
Total harvest costs	--	--	--	79.54
Total variable costs per harvested acre	--	--	--	246.35

Yield of lint per harvested acre 940 pounds
Yield of cottonseed per harvested acre .39 ton

1/ First 0.5 acre foot of water at $1.75 per acre foot, representing cheap Salt River Project water; remainder of water at $8.25 per acre foot.

2/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Mechanical picker, owned equipment	55
Mechanical picker, custom hire	33
Mechanical scrapper, owned equipment	8
Mechanical scrapper, custom hire	4

Table 13 --Cotton, upland, 4 x 1 skip-row: Estimated inputs and variable costs, Area C, Central Arizona

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	9.5	2.10	19.95
Irrigator	do.	12.1	1.70	20.57
Hand thin and weed	--	--	--	2.50
Seed	Pound	17.	.20	3.40
Fertilizer:				
Nitrogen (N)	do.	175.	.08	14.00
Phosphorus (P_2O_5)	do.	35.	.10	3.50
Manure, gypsum	--	--	--	.62
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	8.5	1.60	13.60
Equipment lubricants and repairs	do.	8.5	1.05	8.92
Truck fuel, lubricants, and repairs	--	--	--	3.75
Insecticides and fungicides	Acre	10.4	2.60	27.04
Herbicides	do.	1.75	5.00	8.75
Custom hire:				
Pesticide application	do.	10.8	1.40	15.12
Other operations	do.	.8	2.00	1.60
Irrigation water	Acre Foot	5.5	1/	42.12
Hail insurance	--	--	--	2.25
Interest on operating expenses:				
$187.69 for 7 months at 7 percent	--	--	--	7.70
Total preharvest costs	--	--	--	195.39
Harvest costs:2/				
Labor:				
Machine operator	Hour	3.4	2.10	7.14
Power and equipment:				
Mechanical harvester fuel, lubricants, and repairs	--	--	--	8.25
Truck fuel, lubricants, and repairs	--	--	--	1.10
Custom hire:				
Apply defoliant	Acre	1.25	2.10	2.62
Mechanical picking and hauling	Pound	350.	.04	14.00
Mechanical scrapping and hauling	do.	42.	.075	3.15
Other expenses:				
Defoliant	Acre	1.25	2.50	3.12
Ginning, bagging, and ties	Bale	2.21	22.20	49.06
Total harvest costs	--	--	--	88.44
Total variable costs per harvested acre	--	--	--	283.83

Yield of lint per harvested acre	1060 pounds
Yield of cottonseed per harvested acre	.89 ton

1/ First 0.5 acre feet of water at $1.75 per acre foot, representing cheap Salt River Project water; remainder of water at $8.25 per acre foot.

2/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Mechanical picker, owned equipment	55
Mechanical picker, custom hire	33
Mechanical scrapper, owned equipment	8
Mechanical scrapper, custom hire	4

Table 14 --Cotton, upland, solid plant: Estimated inputs and variable costs, Area F, High Southern Desert

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	7.3	1.85	13.50
Irrigator	do.	9.8	1.55	15.19
Hand thin and weed	--	--	--	10.00
Seed	Pound	22.	.20	4.40
Fertilizer:				
Nitrogen (N)	do.	130.	.08	10.40
Phosphorus (P_2O_5)	do.	45.	.095	4.28
Manure, gypsum	--	--	--	.75
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	6.9	1.40	9.66
Equipment lubricants and repairs	do.	6.9	.95	6.56
Truck fuel, lubricants, and repairs	--	--	--	4.00
Insecticides and fungicides	Acre	1.0	3.70	3.70
Herbicides	do.	.7	4.25	2.98
Custom hire:				
Pesticide application	do.	.7	1.50	1.05
Other operations	do.	.3	2.35	.70
Irrigation water	Acre Foot	2.8	7.50	21.00
Hail insurance	--	--	--	3.25
Interest on operating expenses:				
$111.42 for 7 months at 7 percent	--	--	--	4.57
Total preharvest costs	--	--	--	115.99
Harvest costs:1/				
Labor:				
Machine operator	Hour	4.4	1.85	8.14
Hand harvesting	Pound	15.	.07	1.05
Power and equipment:				
Mechanical harvester fuel, lubricants, and repairs	--	--	--	11.00
Truck fuel, lubricants, and repairs	--	--	--	1.25
Custom hire:				
Apply defoliant	Acre	.05	2.00	.10
Mechanical picking and hauling	Pound	117.	.055	6.44
Mechanical scrapping and hauling	do.	15.	.09	1.35
Other expenses:				
Defoliant	Acre	.05	2.50	.12
Ginning, bagging, and ties	Bale	1.52	20.00	30.40
Total harvest costs	--	--	--	59.85
Total variable costs per harvested acre	--	--	--	175.84

Yield of lint per harvested acre	730 pounds
Yield of cottonseed per harvested acre	.62 ton

1/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Hand picked	2
Mechanical picker, owned equipment	80
Mechanical picker, custom hire	16
Mechanical scrapper, custom hire	2

Table 15 --Cotton, upland, 2 x 1 skip-row: Estimated inputs and variable costs, Area F, High Southern Desert

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	11.0	1.85	20.35
Irrigator	do.	12.2	1.55	18.91
Hand thin and weed	--	--	--	10.00
Seed	Pound	22.	.20	4.40
Fertilizer:				
Nitrogen (N)	do.	130.	.08	10.40
Phosphorus (P_2O_5)	do.	45.	.095	4.28
Manure, gypsum	--	--	--	1.12
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	10.4	1.40	14.56
Equipment lubricants and repairs	do.	10.4	.95	9.88
Truck fuel, lubricants, and repairs	--	--	--	6.00
Insecticides and fungicides	Acre	1.5	3.70	5.55
Herbicides	do.	1.05	4.25	4.46
Custom hire:				
Pesticide application	do.	1.05	1.50	1.58
Other operations	do.	.4	2.35	.94
Irrigation water	Acre Foot	3.5	7.50	26.25
Hail insurance	--	--	--	4.00
Interest on operating expenses:				
$142.68 for 7 months at 7 percent	--	--	--	5.85
Total preharvest costs	--	--	--	148.53
Harvest costs:1/				
Labor:				
Machine operator	Hour	4.6	1.85	8.51
Hand harvesting	Pound	18.	.07	1.26
Power and equipment:				
Mechanical harvester fuel, lubricants, and repairs	--	--	--	11.00
Truck fuel, lubricants, and repairs	--	--	--	1.40
Custom hire:				
Apply defoliant	Acre	.1	2.00	.20
Mechanical picking and hauling	Pound	146.	.055	8.03
Mechanical scrapping and hauling	do.	18.	.09	1.62
Other expenses:				
Defoliant	Acre	.1	2.50	.25
Ginning, bagging,and ties	Bale	1.90	20.00	38.00
Total harvest costs	--	--	--	70.27
Total variable costs per harvested acre	--	--	--	218.80

Yield of lint per harvested acre	910 pounds
Yield of cottonseed per harvested acre	.77 ton

1/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Hand picked	2
Mechanical picker, owned equipment	80
Mechanical picker, custom hire	16
Mechanical scrapper, custom hire	2

Table 1c --Cotton, upland, solid plant: Estimated inputs and variable costs, Area C, Rio Grande Valley

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	10.0	1.80	18.00
Irrigator	do.	5.4	1.50	8.10
Hand thin and weed	--	--	--	16.00
Seed	Pound	22.	.20	4.40
Fertilizer:				
Nitrogen (N)	do.	80.	.09	7.20
Phosphorus (P_2O_5)	do.	40.	.09	3.60
Manure, gypsum	--	--	--	1.75
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	9.3	1.30	12.09
Equipment lubricants and repairs	do.	9.3	.75	6.98
Truck fuel, lubricants, and repairs	--	--	--	4.00
Insecticides and fungicides	Acre	.9	3.70	3.33
Herbicides	do.	.8	5.00	4.00
Custom hire:				
Pesticide application	do.	.6	1.75	1.05
Other operations	do.	.4	2.35	.94
Irrigation water 1/	Acre Foot	1.3	3.00	3.90
Hail insurance	--	--	--	4.00
Interest on operating expenses:				
$99.34 for 7 months at 7 percent	--	--	--	4.07
Total preharvest costs	--	--	--	103.41
Harvest costs: 2/				
Labor:				
Machine operator	Hour	3.8	1.80	6.84
Hand harvesting	Pound	6.	.08	.48
Power and equipment:				
Mechanical harvester fuel, lubricants, and repairs	--	--	--	9.50
Truck fuel, lubricants, and repairs	--	--	--	1.00
Custom hire:				
Apply defoliant	Acre	.05	2.00	.10
Mechanical picking and hauling	Pound	58.	.045	2.61
Other expenses:				
Defoliant	Acre	.05	2.50	.13
Ginning, bagging, and ties	Bale	1.35	19.00	25.65
Total harvest costs	--	--	--	46.30
Total variable costs per harvested acre	--	--	--	149.71

Yield of lint per harvested acre	650 pounds
Yield of cottonseed per harvested acre	.55 ton

1/ This does not include a fixed charge of $11.00 per acre levied by Elephant Butte Irrigation District for delivery of an average of 1.7 acre-feet per acre per year.

2/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Hand picked	1
Mechanical picker, owned equipment	90
Mechanical picker, custom hire	9

Table 17 --Cotton, upland, solid plant: Estimated inputs and variable costs, Area H, Pecos Valley

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	7.1	1.95	13.84
Irrigator	do.	7.6	1.45	11.02
Hand thin and weed	--	--	--	9.00
Seed	Pound	22.	.20	4.40
Fertilizer:				
Nitrogen (N)	do.	50.	.09	4.50
Phosphorus (P_2O_5)	do.	40.	.09	3.60
Potash (K_2O)	do.	10.	.05	.50
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	6.3	1.25	7.88
Equipment lubricants and repairs	do.	6.3	.80	5.04
Truck fuel, lubricants, and repairs	--	--	--	4.00
Insecticides and fungicides	Acre	.9	2.60	2.34
Herbicides	do.	.6	5.00	3.00
Custom hire:				
Pesticide application	do.	.8	1.65	1.32
Other operations	do.	.6	3.00	1.80
Irrigation water	Acre Foot	2.7	4.00	10.80
Hail insurance	--	--	--	4.75
Interest on operating expenses:				
$87.79 for 7 months at 7 percent	--	--	--	3.60
Total preharvest costs	--	--	--	91.39
Harvest costs:1/				
Labor:				
Machine operator	Hour	4.3	1.95	8.38
Hand harvesting	Pound	20.	.08	1.60
Power and equipment:				
Mechanical harvester fuel, lubricants, and repairs	--	--	--	9.50
Truck fuel, lubricants, and repairs	--	--	--	1.25
Custom hire:				
Apply defoliant	Acre	.1	2.00	.20
Mechanical picking and hauling	Pound	46.	.055	2.53
Mechanical scrapping and hauling	do.	13.	.09	1.17
Other expenses:				
Defoliant	Acre	.1	2.50	.25
Ginning, bagging, and ties	Bale	1.35	20.50	27.68
Total harvest costs	--	--	--	52.56
Total variable costs per harvested acre	--	--	--	143.95

Yield of lint per harvested acre	650 pounds
Yield of cottonseed per harvested acre	.55 ton

1/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Hand picked	3
Mechanical picker, owned equipment	86
Mechanical picker, custom hire	7
Mechanical scrapper, owned equipment	2
Mechanical scrapper, custom hire	2

Table 18 --Cotton, upland, solid plant: Estimated inputs and variable costs, Area J2, Counties other than Curry, High Plains

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	4.3	1.85	7.96
Irrigator	do.	6.6	1.40	9.24
Hand thin and weed	--	--	--	5.50
Seed	Pound	35.	.15	5.25
Fertilizer:				
Nitrogen (N)	do.	75.	.09	6.75
Phosphorus (P_2O_5)	do.	55.	.09	4.95
Potash (K_2O)	do.	5.	.05	.25
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	4.0	1.50	6.00
Equipment lubricants and repairs	do.	4.0	1.00	4.00
Truck fuel, lubricants, and repairs	--	--	--	3.25
Insecticides and fungicides	Acre	.3	2.40	.72
Herbicides	do.	.7	4.00	2.80
Custom hire:				
Pesticide application	do.	.3	1.50	.45
Other operations	do.	.7	2.00	1.40
Irrigation water	Acre Foot	2.0	5.50	11.00
Hail insurance	--	--	--	3.75
Interest on operating expenses:				
$73.27 for 7 months at 7 percent	--	--	--	3.00
Total preharvest costs	--	--	--	76.27
Harvest costs:1/				
Labor:				
Machine operator	Hour	1.8	1.85	3.33
Hand harvesting	Pound	4.	.10	.40
Power and equipment:				
Mechanical harvester fuel, lubricants, and repairs	--	--	--	4.00
Truck fuel, lubricants, and repairs	--	--	--	.75
Custom hire:				
Apply defoliant	Acre	.1	2.00	.20
Mechanical picking and hauling	Pound	38.	.05	1.90
Mechanical stripping and hauling	do.	106.	.03	3.18
Other expenses:				
Defoliant	Acre	.1	2.50	.25
Ginning, bagging, and ties	Bale	.89	20.50	18.24
Total harvest costs	--	--	--	32.25
Total variable costs per harvested acre	--	--	--	108.52

Yield of lint per harvested acre	425 pounds
Yield of cottonseed per harvested acre	.38 ton

1/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Hand picked	1
Mechanical picker, owned equipment	30
Mechanical picker, custom hire	9
Mechanical stripper, owned equipment	35
Mechanical stripper, custom hire	25

Table 19 --Cotton, American-Pima, solid plant: Estimated inputs and variable costs, Area C, Central Arizona

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	7.6	2.10	15.96
Irrigator	do.	10.8	1.70	18.36
Hand thin and weed	--	--	--	2.50
Seed	Pound	17.	.18	3.06
Fertilizer:				
Nitrogen (N)	do.	110.	.08	8.80
Phosphorus (P_2O_5)	do.	45.	.10	4.50
Manure, gypsum	--	--	--	.50
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	6.8	1.60	10.88
Equipment lubricants and repairs	do.	6.8	1.05	7.14
Truck fuel, lubricants, and repairs	--	--	--	3.00
Insecticides and fungicides	Acre	8.3	2.60	21.58
Herbicides	do.	1.4	5.00	7.00
Custom hire:				
Pesticide application	do.	8.6	1.40	12.04
Other operations	do.	.6	2.00	1.20
Irrigation water	Acre Foot	4.9	1/	38.48
Hail insurance	--	--	--	2.00
Interest on operating expenses:				
$157.00 for 7 months at 7 percent	--	--	--	6.44
Total preharvest costs	--	--	--	163.44
Harvest costs:2/				
Labor:				
Machine operator	Hour	2.8	2.10	5.88
Power and equipment:				
Machine harvester fuel, lubricants, and repairs	--	--	--	8.25
Truck fuel, lubricants, and repairs	--	--	--	.70
Custom hire:				
Apply defoliant	Acre	1.0	2.10	2.10
Mechanical picking and hauling	Pound	132.	.085	11.22
Mechanical scrapping and hauling	do.	16.	.10	1.60
Other expenses:				
Defoliant	Acre	1.0	2.50	2.50
Cinning, bagging, and ties	Bale	.83	34.50	28.64
Total harvest costs	--	--	--	60.89
Total variable costs per harvested acre	--	--	--	224.33

Yield of lint per harvested acre	400 pounds
Yield of cottonseed per harvested acre	.41 ton

1/ First 0.3 acre foot of water at $1.75 per acre foot, representing cheap Salt River Project water; remainder of water at $8.25 per acre foot.

2/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Mechanical picker, owned equipment	55
Mechanical picker, custom hire	33
Mechanical scrapper, owned equipment	8
Mechanical scrapper, custom hire	4

Table 20 --Cotton, American-Pima, 4 x 1 skip-row: Estimated inputs and variable costs, Area C, Central Arizona

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	9.5	2.10	19.95
Irrigator	do.	12.1	1.70	20.57
Hand thin and weed	--	--	--	2.50
Seed	Pound	17.	.18	3.06
Fertilizer:				
Nitrogen (N)	do.	110.	.08	8.80
Phosphorus (P_2O_5)	do.	45.	.10	4.50
Manure, gypsum	--	--	--	.62
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	8.5	1.60	13.60
Equipment lubricants and repairs	do.	8.5	1.05	8.92
Truck fuel, lubricants, and repairs	--	--	--	3.75
Insecticides and fungicides	Acre	10.4	2.60	27.04
Herbicides	do.	1.75	5.00	8.75
Custom hire:				
Pesticide application	do.	10.8	1.40	15.12
Other operations	do.	.8	2.00	1.60
Irrigation water	Acre Foot	5.5	1/	43.42
Hail insurance	--	--	--	2.25
Interest on operating expenses:				
$184.45 for 7 months at 7 percent	--	--	--	7.56
Total preharvest costs	--	--	--	192.01
Harvest costs:2/				
Labor:				
Machine operator	Hour	2.9	2.10	6.09
Power and equipment:				
Machine harvester fuel, lubricants, and repairs	--	--	--	8.25
Truck fuel, lubricants, and repairs	--	--	--	.80
Custom hire:				
Apply defoliant	Acre	1.25	2.10	2.62
Mechanical picking and hauling	Pound	148.	.085	12.58
Mechanical scrapping and hauling	do.	18.	.10	1.80
Other expenses:				
Defoliant	Acre	1.25	2.50	3.12
Ginning, bagging, and ties	Bale	.94	34.50	32.43
Total harvest costs	--	--	--	67.69
Total variable costs per harvested acre	--	--	--	259.70

Yield of lint per harvested acre	450 pounds
Yield of cottonseed per harvested acre	.46 ton

1/ First 0.3 acre foot of water at $1.75, representing cheap Salt River Project water; remainder of water at $8.25 per acre foot.

2/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Mechanical picker, owned equipment	55
Mechanical picker, custom hire	33
Mechanical scrapper, owned equipment	8
Mechanical scrapper, custom hire	4

Table 21 --Cotton, American-Pima, solid plant: Estimated inputs and variable costs, Area F, High Southern Desert

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	7.3	1.85	13.50
Irrigator	do.	9.8	1.55	15.19
Hand thin and weed	--	--	--	10.00
Seed	Pound	22.	.18	3.96
Fertilizer:				
Nitrogen (N)	do.	80.	.08	6.40
Phosphorus (P_2O_5)	do.	45.	.095	4.28
Manure, gypsum	--	--	--	.75
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	6.9	1.40	9.66
Equipment lubricants and repairs	do.	6.9	.95	6.56
Truck fuel, lubricants, and repairs	--	--	--	4.00
Insecticides and fungicides	Acre	1.0	3.70	3.70
Herbicides	do.	.7	4.25	2.98
Custom hire:				
Pesticide application	do.	.7	1.50	1.05
Other operations	do.	.3	2.35	.70
Irrigation water	Acre Foot	2.8	7.50	21.00
Hail insurance	--	--	--	3.25
Interest on operating expenses:				
$106.98 for 7 months at 7 percent	--	--	--	4.39
Total preharvest costs	--	--	--	111.37
Harvest costs:1/				
Labor:				
Machine operator	Hour	4.2	1.85	7.77
Power and equipment:				
Machine harvester fuel, lubricants, and repairs	--	--	--	11.00
Truck fuel, lubricants, and repairs	--	--	--	1.15
Custom hire:				
Apply defoliant	Acre	.05	2.00	.10
Mechanical picking and hauling	Pound	90.	.075	6.75
Mechanical scrapping and hauling	do	10.	.12	1.20
Other expenses:				
Defoliant	Acre	.05	2.50	.12
Ginning, bagging, and ties	Bale	1.04	29.50	30.68
Total harvest costs	--	--	--	58.77
Total variable costs per harvested acre	--	--	--	170.14

Yield of lint per harvested acre	500 pounds
Yield of cottonseed per harvested acre	.47 ton

1/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Mechanical picker, owned equipment	80
Mechanical picker, custom hire	18
Mechanical scrapper, custom hire	2

Table 22 --Cotton, American-Pima, 2 x 1 skip-row: Estimated inputs and variable costs, Area F, High Southern Desert

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	11.0	1.85	20.35
Irrigator	do.	12.2	1.55	18.91
Hand thin and weed	--	--	--	10.00
Seed	Pound	22.	.18	3.96
Fertilizer:				
Nitrogen (N)	do.	80.	.08	6.40
Phosphorus (P_2O_5)	do.	45.	.095	4.28
Manure, gypsum	--	--	--	1.12
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	10.4	1.40	14.56
Equipment lubricants and repairs	do.	10.4	.95	9.88
Truck fuel, lubricants, and repairs	--	--	--	6.00
Insecticides and fungicides	Acre	1.5	3.70	5.55
Herbicides	do.	1.05	4.25	4.46
Custom hire:				
Pesticide application	do.	1.05	1.50	1.58
Other operations	do.	.4	2.35	.94
Irrigation water	Acre Foot	3.5	7.50	26.25
Hail insurance	--	--	--	4.00
Interest on operating expenses:				
$138.24 for 7 months at 7 percent	--	--	--	5.67
Total preharvest costs	--	--	--	143.91
Harvest costs:1/				
Labor:				
Machine operator	Hour	4.3	1.85	7.96
Power and equipment:				
Machine harvester fuel, lubricants, and repair	--	--	--	11.00
Truck fuel, lubricants, and repairs	--	--	--	1.25
Custom hire:				
Apply defoliant	Acre	.1	2.00	.20
Mechanical picking and hauling	Pound	112.	.075	8.40
Mechanical scrapping and hauling	do.	12.	.12	1.44
Other expenses:				
Defoliant	Acre	.1	2.50	.25
Ginning, bagging, and ties	Bale	1.30	29.50	38.35
Total harvest costs	--	--	--	68.85
Total variable costs per harvested acre	--	--	--	212.76

Yield of lint per harvested acre	625 pounds
Yield of cottonseed per harvested acre	.58 ton

1/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Mechanical picker, owned equipment	80
Mechanical picker, custom hire	18
Mechanical scrapper, custom hire	2

Table 23 --Cotton, American-Pima, solid plant: Estimated inputs and variable costs, Area G, Rio Grande Valley

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	10.0	1.80	18.00
Irrigator	do.	5.4	1.50	8.10
Hand thin and weed	--	--	--	16.00
Seed	Pound	22.	.18	3.96
Fertilizer:				
Nitrogen (N)	do.	50.	.09	4.50
Phosphorus (P_2O_5)	do.	40.	.09	3.60
Manure, gypsum	--	--	--	1.75
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	9.3	1.30	12.09
Equipment lubricants and repairs	do.	9.3	.75	6.98
Truck fuel, lubricants, and repairs	--	--	--	4.00
Insecticides and fungicides	Acre	.9	3.70	3.33
Herbicides	do.	.8	5.00	4.00
Custom hire:				
Pesticide application	do.	.6	1.75	1.05
Other operations	do.	.4	2.35	.94
Irrigation water 1/	Acre Foot	1.3	3.00	3.90
Hail insurance	--	--	--	4.00
Interest on operating expenses:				
$96.20 for 7 months at 7 percent	--	--	--	3.94
Total preharvest costs	--	--	--	100.14
Harvest costs: 2/				
Labor:				
Machine operator	Hour	3.5	1.80	6.30
Power and equipment:				
Machine harvester fuel, lubricants, and repairs	--	--	--	9.50
Truck fuel, lubricants, and repairs	--	--	--	.90
Custom hire:				
Apply defoliant	Acre	.05	2.00	.10
Mechanical picking and hauling	Pound	42.	.065	2.73
Other expenses:				
Defoliant	Acre	.05	2.50	.12
Ginning, bagging, and ties	Bale	.88	28.25	24.86
Total harvest costs	--	--	--	44.51
Total variable costs per harvested acre	--	--	--	144.65

Yield of lint per harvested acre	420 pounds
Yield of cottonseed per harvested acre	.4 ton

1/ This does not include a fixed charge of $11.00 per acre levied by Elephant Butte Irrigation District for delivery of an average of 1.7 acre-feet per acre per year.

2/ Harvest costs reflect the following methods of harvesting:

Method	Percent of production
Mechanical picker, owned equipment	90
Mechanical picker, custom hire	10

Table 24 --Barley: Estimated inputs and variable costs, Area A1, Eastside, San Joaquin Valley Cotton Area

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	1.9	2.25	4.28
Irrigator	do.	1.7	2.00	3.40
Seed	Pound	90.	.043	3.87
Fertilizer:				
Nitrogen (N)	do.	80.	.08	6.40
Phosphorus (P_2O_5)	do.	20.	.105	2.10
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	1.8	1.40	2.52
Equipment lubricants and repairs	do.	1.8	1.10	1.98
Truck fuel, lubricants, and repairs	--	--	--	1.00
Insecticides and fungicides	Acre	.05	2.50	.12
Herbicides	do.	.4	.70	.28
Custom hire:				
Pesticide application	do.	.4	2.10	.84
Other operations	do.	.8	3.00	2.40
Irrigation water	Acre Foot	1.4	3.50	4.90
Interest on operating expenses:				
$34.09 for 6 months at 7 percent	--	--	--	1.19
Total preharvest costs	--	--	--	35.28
Harvest costs: 1/				
Labor:				
Machine operator	Hour	.2	2.25	.45
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.4	1.50	.60
Truck fuel, lubricants, and repairs	Ton	.5	.50	.25
Custom hire:				
Combining	Acre	.6	7.25	4.35
Hauling	Ton	.7	2.00	1.40
Total harvest costs	--	--	--	7.05
Total variable costs per harvested acre	--	--	--	42.33

Yield per harvested acre 51 bushels

1/ Harvest costs reflect 60 percent custom combined and hauled and 40 percent combined and hauled with owned equipment.

Table 25 --Barley: Estimated inputs and variable costs, Area A2, Westside, San Joaquin Valley Cotton Area

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	1.7	2.25	3.82
Irrigator	do.	2.2	2.00	4.40
Seed	Pound	90.	.043	3.87
Fertilizer:				
Nitrogen (N)	do.	90.	.07	6.30
Phosphorus (P_2O_5)	do.	20.	.095	1.90
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	1.6	1.80	2.88
Equipment lubricants and repairs	do.	1.6	1.25	2.00
Truck fuel, lubricants, and repairs	--	--	--	.65
Insecticides and fungicides	Acre	.05	2.50	.12
Herbicides	do.	.4	.70	.28
Custom hire:				
Pesticide application	do.	.4	2.10	.84
Other operations	do.	.8	2.50	2.00
Irrigation water	Acre Foot	1.8	9.00	16.20
Interest on operating expenses:				
$45.26 for 6 months at 7 percent	--	--	--	1.58
Total preharvest costs	--	--	--	46.84
Harvest costs:1/				
Labor:				
Machine operator	Hour	.7	2.25	1.58
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.75	1.50	1.12
Truck fuel, lubricants, and repairs	Ton	1.1	.50	.55
Custom hire:				
Combining	Acre	.25	7.75	1.94
Hauling	Ton	.4	2.40	.96
Total harvest costs	--	--	--	6.15
Total variable costs per harvested acre	--	--	--	52.99

Yield per harvested acre 64 bushels

1/ Harvest costs reflect 25 percent custom combined and hauled and 75 percent combined and hauled with owned equipment.

Table 16 --Barley: Estimated inputs and variable cost, Area A3, Central Kern County, San Joaquin Valley Cotton Area

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollar	Dollar
Labor:				
Machine operator	Hour	1.9	2.25	4.28
Irrigator	do.	2.2	2.00	4.40
Seed	Pound	90.	.043	3.87
Fertilizer:				
Nitrogen (N)	do.	80.	.075	6.00
Phosphorus (P_2O_5)	do.	20.	.10	2.00
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	1.8	1.70	3.06
Equipment lubricants and repairs	do.	1.8	1.25	2.25
Truck fuel, lubricants, and repairs	--	--	--	1.00
Insecticides and fungicides	Acre	.05	2.50	.12
Herbicides	do.	.4	.70	.28
Custom hire:				
Pesticide application	do.	.4	2.10	.84
Other operations	do.	.8	2.75	2.20
Irrigation water	Acre Foot	1.8	5.50	9.90
Interest on operating expenses:				
$40.20 for 6 months at 7 percent	--	--	--	1.41
Total preharvest costs	--	--	--	41.61
Harvest costs:				
Labor:				
Machine operator	Hour	.3	2.25	.68
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.4	1.50	.60
Truck fuel, lubricants, and repairs	Ton	.5	.50	.25
Custom hire:				
Combining	Acre	.6	7.50	4.50
Hauling	Ton	.8	2.00	1.60
Total harvest costs	--	--	--	7.63
Total variable costs per harvested acre	--	--	--	49.24

Yield per harvested acre 56 bushels

1/Harvest costs reflect 60 percent custom combined and hauled and 40 percent combined and hauled with owned equipment.

Table 27 --Barley: Estimated inputs and variable costs, Area B, Low Desert

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollar	Dollar
Labor:				
Machine operator	Hour	1.8	2.15	3.87
Irrigator	do.	3.1	1.90	5.89
Seed	Pound	110.	.044	4.84
Fertilizer:				
Nitrogen (N)	do.	140.	.07	9.80
Phosphorus (P_2O_5)	do.	50.	.10	5.00
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	1.7	1.70	2.89
Equipment lubricants and repairs	do.	1.7	.90	1.53
Truck fuel, lubricants, and repairs	--	--	--	.85
Insecticides and fungicides	Acre	.25	2.50	.62
Herbicides	do.	.25	.65	.16
Custom hire:				
Pesticide application	do.	.50	2.00	1.00
Other operations	do.	1.1	3.00	3.30
Irrigation water	Acre Foot	2.8	2.50	7.00
Interest on operating expenses:				
$46.75 for 6 months at 7 percent	--	--	--	1.64
Total preharvest costs	--	--	--	48.39
Harvest costs:1/				
Labor:				
Machine operator	Hour	.3	2.15	.64
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.3	1.50	.45
Truck fuel, lubricants, and repairs	Ton	.5	.50	.25
Custom hire:				
Combining	Acre	.7	7.75	5.42
Hauling	Ton	1.2	2.40	2.88
Total harvest costs	--	--	--	9.64
Total variable costs per harvested acre	--	--	--	58.03

Yield per harvested acre 70 bushels

1/ Harvest costs reflect 70 percent custom combined and hauled and 30 percent combined and hauled with owned equipment.

Table 2c --Barley: Estimated inputs and variable costs, Area C, Central Arizona

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	2.4	2.10	5.04
Irrigator	do.	3.8	1.70	6.46
Seed	Pound	110.	.046	5.06
Fertilizer:				
Nitrogen (N)	do.	120.	.075	9.00
Phosphorus (P_2O_5)	do.	35.	.095	3.32
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	2.2	1.60	3.52
Equipment lubricants and repairs	do.	2.2	.85	1.87
Truck fuel, lubricants, and repairs	--	--	--	1.00
Insecticides and fungicides	Acre	.15	2.50	.38
Herbicides	do.	.1	1.25	.12
Custom hire:				
Pesticide application	do.	.15	1.35	.20
Other operations	do.	.4	2.00	.80
Irrigation water	Acre Foot	2.5	1/	16.72
Interest on operating expenses:				
$53.49 for 6 months at 7 percent	--	--	--	1.87
Total preharvest costs	--	--	--	55.36
Harvest costs: 2/				
Labor:				
Machine operator	Hour	.3	2.10	.63
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.3	1.50	.45
Truck fuel, lubricants, and repairs	Ton	.5	.50	.25
Custom hire:				
Combining	Acre	.7	7.00	4.90
Hauling	Ton	1.3	2.00	2.60
Total harvest costs	--	--	--	8.83
Total variable costs per harvested acre	--	--	--	64.19
Yield per harvested acre	74 bushels			

1/ First 0.6 acre foot of water at $1.75 per acre foot, representing cheap Salt River Project water; remainder of water at $8.25 per acre foot.

2/ Harvest costs reflect 70 percent custom combined and hauled and 30 percent combined and hauled with owned equipment.

Table 29 --Barley: Estimated inputs and variable costs, Area F, High Southern Desert

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	2.7	1.85	5.00
Irrigator	do.	5.1	1.55	7.90
Seed	Pound	110.	.046	5.06
Fertilizer:				
Nitrogen (N)	do.	120.	.07	8.40
Phosphorus (P_2O_5)	do.	30.	.095	2.85
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	2.6	1.40	3.64
Equipment lubricants and repairs	do.	2.6	.80	2.08
Truck fuel, lubricants, and repairs	--	--	--	1.75
Insecticides and fungicides	Acre	.5	2.00	1.00
Herbicides	do.	.1	1.00	.10
Custom hire:				
Pesticide application	do.	.55	1.35	.74
Other operations	do.	.2	2.35	.47
Irrigation water	Acre Foot	2.2	7.50	16.50
Interest on operating expenses:				
$55.49 for 8 months at 7 percent	--	--	--	2.61
Total preharvest costs	--	--	--	58.10
Harvest costs:1/				
Labor:				
Machine operator	Hour	.4	1.85	.74
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.5	1.50	.75
Truck fuel, lubricants, and repairs	Ton	.85	.50	.42
Custom hire:				
Combining	Acre	.5	7.00	3.50
Hauling	Ton	.85	2.00	1.70
Total harvest costs	--	--	--	7.11
Total variable costs per harvested acre	--	--	--	65.21

Yield per harvested acre 72 bushels

1/ Harvest costs reflect 50 percent custom combined and hauled and 50 percent combined and hauled with owned equipment.

Table 30 --Barley: Estimated inputs and variable costs, Area G, Rio Grande Valley

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	3.1	1.80	5.58
Irrigator	do.	2.6	1.50	3.90
Seed	Pound	110.	.046	5.06
Fertilizer:				
Nitrogen (N)	do.	120.	.075	9.00
Phosphorus (P_2O_5)	do.	45.	.09	4.05
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	3.1	1.30	4.03
Equipment lubricants and repairs	do.	3.1	.60	1.86
Truck fuel, lubricants, and repairs	--	--	--	1.50
Insecticides and fungicides	Acre	.25	1.00	.25
Herbicides	do.	.1	1.00	.10
Custom hire:				
Pesticide application	do.	.3	1.35	.40
Other operations	do.	.5	2.35	1.18
Irrigation water	Acre Foot	.5	3.00	1/1.50
Interest on operating expenses:				
$38.41 for 8 months at 7 percent	--	--	--	1.81
Total preharvest costs	--	--	--	40.22
Harvest costs:				
Custom hire:				
Combining	Acre	1.0	7.00	7.00
Hauling	Ton	1.5	2.00	3.00
Total harvest costs	--	--	--	10.00
Total variable costs per harvested acre	--	--	--	50.22
Yield per harvested acre	62 bushels			

1/ This cost does not include a fixed charge of $11.00 per acre levied by Elephant Butte Irrigation District for delivery of an average of 1.7 acre-feet per acre per year.

Table 31 --Barley: Estimated inputs and variable costs, Area H, Pecos Valley

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	2.2	1.95	4.29
Irrigator	do.	3.4	1.45	4.93
Seed	Pound	110.	.046	5.06
Fertilizer:				
Nitrogen (N)	do.	50.	.075	3.75
Phosphorus (P_2O_5)	do.	25.	.09	2.25
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	2.1	1.25	2.62
Equipment lubricants and repairs	do.	2.1	.65	1.36
Truck fuel, lubricants, and repairs	--	--	--	1.50
Insecticides and fungicides	Acre	.25	1.00	.25
Herbicides	do.	.1	.75	.08
Custom hire:				
Pesticide application	do.	.3	1.35	.40
Other operations	do.	.6	3.00	1.80
Irrigation water	Acre Foot	1.8	4.00	7.20
Interest on operating expenses:				
$35.49 for 8 months at 7 percent	--	--	--	1.67
Total preharvest costs	--	--	--	37.16
Harvest costs:				
Custom hire:				
Combining	Acre	1.0	6.00	6.00
Hauling	Ton	1.4	2.00	2.80
Total harvest costs	--	--	--	8.80
Total variable costs per harvested acre	--	--	--	45.96

Yield per harvested acre 59 bushels

Table 32 --Grain sorghum: Estimated inputs and variable costs, Area A1, Eastside, San Joaquin Valley Cotton Area 1/

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	2.7	2.25	6.08
Irrigator	do.	3.2	2.00	6.40
Seed	Pound	12.	.265	3.18
Fertilizer:				
Nitrogen (N)	do.	125.	.08	10.00
Phosphorus (P_2O_5)	do.	10.	.105	1.05
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	2.5	1.40	3.50
Equipment lubricants and repairs	do.	2.5	.90	2.25
Truck fuel, lubricants, and repairs	--	--	--	1.50
Insecticides and fungicides	Acre	.65	2.50	1.62
Custom hire:				
Pesticide application	do.	.5	2.10	1.05
Other operations	do.	.7	3.00	2.10
Irrigation water	Acre Foot	2.5	3.50	8.75
Interest on operating expenses:				
$47.48 for 6 months at 7 percent	--	--	--	1.66
Total preharvest costs	--	--	--	49.14
Harvest costs:2/				
Labor:				
Machine operator	Hour	.3	2.25	.68
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.4	1.50	.60
Truck fuel, lubricants, and repairs	Ton	.7	.50	.35
Custom hire:				
Combining	Acre	.6	8.50	5.10
Hauling	Ton	1.1	2.00	2.20
Other expenses:				
Drying	do.	.9	3.00	2.70
Total harvest costs	--	--	--	11.63
Total variable costs per harvested acre	--	--	--	60.77
Yield per harvested acre	63.5 bushels			

1/ Approximately 75 percent of the acreage is double-cropped after barley or other early harvested crops.

2/ Harvest costs reflect 60 percent custom combined and hauled and 40 percent combined and hauled with owned equipment.

Table 33 --Grain sorghum: Estimated inputs and variable costs, Area A3, Central Kern County, San Joaquin Valley Cotton Area 1/

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	2.8	2.25	6.30
Irrigator	do.	3.2	2.00	6.40
Seed	Pound	12.	.265	3.18
Fertilizer:				
Nitrogen (N)	do.	125.	.075	9.38
Phosphorus (P_2O_5)	do.	10.	.10	1.00
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	2.6	1.70	4.42
Equipment lubricants and repairs	do.	2.6	1.00	2.60
Truck fuel, lubricants, and repairs	--	--	--	1.50
Insecticides and fungicides	Acre	.65	2.50	1.62
Custom hire:				
Pesticide application	do.	.5	2.10	1.05
Other operations	do.	.7	2.75	1.92
Irrigation water	Acre Foot	2.5	5.50	13.75
Interest on operating expenses:				
$53.12 for 6 months at 7 percent	--	--	--	1.86
Total preharvest costs	--	--	--	54.98
Harvest costs: 2/				
Labor:				
Machine operator	Hour	.3	2.25	.68
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.4	1.50	.60
Truck fuel, lubricants, and repairs	Ton	.8	.50	.40
Custom hire:				
Combining	Acre	.6	8.75	5.25
Hauling	Ton	1.1	2.00	2.20
Other expenses:				
Drying	do.	.9	3.00	2.70
Total harvest costs	--	--	--	11.83
Total variable costs per harvested acre	--	--	--	66.81
Yield per harvested acre	67 bushels			

1/ Approximately 75 percent of the acreage is double-cropped after barley or other early harvested crops.

2/ Harvest costs reflect 60 percent custom combined and hauled and 40 percent combined and hauled with owned equipment.

Table 34 --Grain sorghum: Estimated inputs and variable costs, Area B, Low Desert 1/

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	2.4	2.15	5.16
Irrigator	do.	4.8	1.90	9.12
Seed	Pound	20.	.255	5.10
Fertilizer:				
Nitrogen (N)	do.	150.	.065	9.75
Phosphorus (P_2O_5)	do.	25.	.10	2.50
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	2.3	1.70	3.91
Equipment lubricants and repairs	do.	2.3	.75	1.72
Truck fuel, lubricants, and repairs	--	--	--	1.25
Herbicides	Acre	.75	3.50	2.62
Custom hire:				
Pesticide application	do.	.2	2.00	.40
Other operations	do.	1.1	3.00	3.30
Irrigation water	Acre Foot	4.0	2.50	10.00
Interest on operating expenses:				
$54.83 for 6 months at 7 percent	--	--	--	1.92
Total preharvest costs	--	--	--	56.75
Harvest costs: 2/				
Labor:				
Machine operator	Hour	.3	2.15	.64
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.3	1.50	.45
Truck fuel, lubricants, and repairs	Ton	.5	.50	.25
Custom hire:				
Apply defoliant	Acre	.05	2.25	.11
Combining	do.	.7	8.75	6.12
Hauling	Ton	1.3	2.40	3.12
Other expenses:				
Defoliant	Acre	.05	1.40	.07
Total harvest costs	--	--	--	10.76
Total variable costs per harvested acre	--	--	--	67.51
Yield per harvested acre	66 bushels			

1/ Approximately 50 percent of the acreage is double-cropped after winter vegetables or other early harvested crops.

2/ Harvest costs reflect 70 percent custom combined and hauled and 30 percent combined and hauled with own equipment.

Table 35 --Grain sorghum (double-cropped): Estimated inputs and variable costs, Area C, Central Arizona

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	3.5	2.10	7.35
Irrigator	do.	4.3	1.70	7.31
Seed	Pound	10.	.245	2.45
Fertilizer:				
Nitrogen (N)	do.	120.	.065	7.80
Phosphorus (P_2O_5)	do.	25.	.095	2.38
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	3.3	1.60	5.28
Equipment lubricants and repairs	do.	3.3	.70	2.31
Truck fuel, lubricants, and repairs	--	--	--	1.25
Insecticides and fungicides	Acre	.3	2.00	.60
Herbicides	do.	.3	3.25	.98
Custom hire:				
Pesticide application	do.	.4	1.35	.54
Other operations	do.	.5	2.00	1.00
Irrigation water	Acre Foot	2.7	1/	18.38
Interest on operating expenses:				
$57.63 for 6 months at 7 percent	--	--	--	2.02
Total preharvest costs	--	--	--	59.65
Harvest costs: 2/				
Labor:				
Machine operator	Hour	.3	2.10	.63
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.3	1.50	.45
Truck fuel, lubricants, and repairs	Ton	.5	.50	.25
Custom hire:				
Combining	Acre	.7	7.00	4.90
Hauling	Ton	1.2	2.00	2.40
Total harvest costs	--	--	--	8.63
Total variable costs per harvested acre	--	--	--	68.28
Yield per harvested acre	62 bushels			

1/ First 0.6 acre foot of water at $1.75 per acre foot representing cheap Salt River Project water; remainder of water at $8.25 per acre foot.

2/ Harvest costs reflect 70 percent custom combined and hauled and 30 percent combined and hauled with owned equipment.

Table 36 --Grain sorghum: Estimated inputs and variable costs, Area F, High Southern Desert

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	5.0	1.85	9.25
Irrigator	do.	6.5	1.55	10.08
Seed	Pound	10.	.24	2.40
Fertilizer:				
Nitrogen (N)	do.	200.	.06	12.00
Phosphorus (P_2O_5)	do.	30.	.09	2.70
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	4.8	1.40	6.72
Equipment lubricants and repairs	do.	4.8	.65	3.12
Truck fuel, lubricants, and repairs	--	--	--	2.75
Insecticides and fungicides	Acre	2.2	1.25	2.75
Herbicides	do.	.6	2.50	1.50
Custom hire:				
Pesticide application	do.	2.6	1.35	3.51
Other operations	do.	.2	2.35	.47
Irrigation water	Acre Foot	2.6	7.50	19.50
Interest on operating expenses:				
$76.75 for 7 months at 7 percent	--	--	--	3.15
Total preharvest costs	--	--	--	79.90
Harvest costs:1/				
Labor:				
Machine operator	Hour	.6	1.85	1.11
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.5	1.50	.75
Truck fuel, lubricants, and repairs	Ton	1.3	.50	.65
Custom hire:				
Combining	Acre	.5	7.00	3.50
Hauling	Ton	1.3	2.00	2.60
Total harvest costs	--	--	--	8.61
Total variable costs per harvested acre	--	--	--	88.51
Yield per harvested acre	92 bushels			

1/ Harvest costs reflect 50 percent custom combined and hauled and 50 percent combined and hauled with owned equipment.

Table 37 --Grain sorghum: Estimated inputs and variable costs, Area G, Rio Grande Valley 1/

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	5.0	1.80	9.00
Irrigator	do.	2.6	1.50	3.90
Seed	Pound	10.	.23	2.30
Fertilizer:				
Nitrogen (N)	do.	85.	.07	5.95
Phosphorus (P_2O_5)	do.	30.	.09	2.70
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	4.9	1.30	6.37
Equipment lubricants and repairs	do.	4.9	.50	2.45
Truck fuel, lubricants, and repairs	--	--	--	2.00
Insecticides and fungicides	Acre	.6	1.25	.75
Herbicides	do.	.5	3.25	1.62
Custom hire:				
Pesticide application	do.	.8	1.35	1.08
Other operations	do.	.3	2.35	.70
Irrigation water	Acre Foot	2.0	3.00	6.00
Interest on operating expenses:				
$44.82 for 6 months at 7 percent	--	--	--	1.57
Total preharvest costs	--	--	--	46.39
Harvest costs:				
Custom hire:				
Combining	Acre	1.0	7.00	7.00
Hauling	Ton	1.82	2.00	3.64
Total harvest costs	--	--	--	10.64
Total variable costs per harvested acre	--	--	--	57.03
Yield per harvested acre	65 bushels			

1/ Approximately 75 percent of the acreage is double-cropped after barley or other early harvested crops.

Table 38 --Grain sorghum: Estimated inputs and variable costs, Area H, Pecos Valley

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	4.7	1.95	9.16
Irrigator	do.	3.4	1.45	4.93
Seed	Pound	10.	.22	2.20
Fertilizer:				
Nitrogen (N)	do.	80.	.07	5.60
Phosphorus (P_2O_5)	do.	35.	.09	3.15
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	4.3	1.25	5.38
Equipment lubricants and repairs	do.	4.3	.80	3.44
Truck fuel, lubricants, and repairs	--	--	--	2.00
Insecticides and fungicides	Acre	.6	1.25	.75
Herbicides	do.	.5	3.25	1.62
Custom hire:				
Pesticide application	do.	.8	1.35	1.08
Other operations	do.	.7	3.00	2.10
Irrigation water	Acre Foot	1.7	4.00	6.80
Interest on operating expenses:				
$48.21 for 7 months at 7 percent	--	--	--	1.98
Total preharvest costs	--	--	--	50.19
Harvest costs:				
Custom hire:				
Combining	Acre	1.0	6.00	6.00
Hauling	Ton	2.04	2.00	4.08
Total harvest costs	--	--	--	10.08
Total variable costs per harvested acre	--	--	--	60.27

Yield per harvested acre 73 bushels

Table 39 --Grain sorghum: Estimated inputs and variable costs, Area J1, Curry County, High Plains

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	3.2	1.85	5.92
Irrigator	do.	4.8	1.40	6.72
Seed	Pound	9.	.22	1.98
Fertilizer:				
Nitrogen (N)	do.	165.	.065	10.72
Phosphorus (P_2O_5)	do.	50.	.09	4.50
Potash (K_2O)	do.	5.	.05	.25
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	3.2	1.60	5.12
Equipment lubricants and repairs	do.	3.2	1.05	3.36
Truck fuel, lubricants, and repairs	--	--	--	2.25
Insecticides and fungicides	Acre	2.0	1.25	2.50
Herbicides	do.	.9	2.25	2.02
Custom hire:				
Pesticide application	do.	2.45	1.35	3.31
Other operations	do.	.8	2.00	1.60
Irrigation water	Acre Foot	2.0	5.50	11.00
Interest on operating expenses:				
$61.25 for 7 months at 7 percent	--	--	--	2.51
Total preharvest costs	--	--	--	63.76
Harvest costs:1/				
Labor:				
Machine operator	Hour	.2	1.85	.37
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.2	1.50	.30
Truck fuel, lubricants, and repairs	Cwt.	11.5	.025	.29
Custom hire:				
Combining	do.	46.2	.10	4.62
Hauling	do.	46.2	.10	4.62
Total harvest costs	--	--	--	10.20
Total variable costs per harvested acre	--	--	--	73.96

Yield per harvested acre 103 bushels

1/ Harvest costs reflect 80 percent custom combined and hauled and 20 percent combined and hauled with owned equipment.

Table 40 --Grain sorghum: Estimated inputs and variable costs, Area J2, Counties other than Curry, High Plains

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	3.1	1.85	5.74
Irrigator	do.	4.1	1.40	5.74
Seed	Pound	9.	.22	1.98
Fertilizer:				
Nitrogen (N)	do.	110.	.065	7.15
Phosphorus (P_2O_5)	do.	25.	.09	2.25
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	3.1	1.50	4.65
Equipment lubricants and repairs	do.	3.1	1.00	3.10
Truck fuel, lubricants, and repairs	--	--	--	2.25
Insecticides and fungicides	Acre	.9	1.25	1.12
Herbicides	do.	.4	3.25	1.30
Custom hire:				
Pesticide application	do.	1.05	1.35	1.42
Other operations	do.	.8	2.00	1.60
Irrigation water	Acre Foot	1.7	5.50	9.35
Interest on operating expenses:				
$47.65 for 7 months at 7 percent	--	--	--	1.95
Total preharvest costs	--	--	--	49.60
Harvest costs:1/				
Labor:				
Machine operator	Hour	.3	1.85	.56
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.3	1.50	.45
Truck fuel, lubricants, and repairs	Cwt.	11.1	.025	.28
Custom hire:				
Combining	do.	25.9	.10	2.59
Hauling	do.	25.9	.10	2.59
Total harvest costs	--	--	--	6.47
Total variable costs per harvested acre	--	--	--	56.07

Yield per harvested acre 66 bushels

1/ Harvest costs reflect 70 percent custom combined and hauled and 30 percent combined and hauled with owned equipment.

Table 41 --Corn for grain: Estimated inputs and variable costs, Area A1, Eastside, San Joaquin Valley Cotton Area

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	3.7	2.25	8.32
Irrigator	do.	4.4	2.00	8.80
Seed	Pound	15.	.31	4.65
Fertilizer:				
Nitrogen (N)	do.	210.	.075	15.75
Phosphorus (P_2O_5)	do.	10.	.105	1.05
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	3.5	1.40	4.90
Equipment lubricants and repairs	do.	3.5	1.00	3.50
Truck fuel, lubricants, and repairs	--	--	--	2.00
Insecticides and fungicides	Acre	.25	3.00	.75
Herbicides	do.	.05	6.25	.31
Custom hire:				
Pesticide application	do.	.25	2.15	.54
Other operations	do.	.7	3.00	2.10
Irrigation water	Acre Foot	2.9	3.50	10.15
Interest on operating expenses:				
$62.82 for 8 months at 7 percent	--	--	--	2.95
Total preharvest costs	--	--	--	65.77
Harvest costs:1/				
Labor:				
Machine operator	Hour	.2	2.25	.45
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.2	1.75	.35
Truck fuel, lubricants, and repairs	Ton	.5	.50	.25
Custom hire:				
Combining	Acre	.8	16.00	12.80
Hauling	Ton	1.9	2.00	3.80
Other expenses:				
Drying	do.	.6	3.00	1.80
Total harvest costs	--	--	--	19.45
Total variable costs per harvested acre	--	--	--	85.22
Yield per harvested acre	87 bushels			

1/ Harvest costs reflect 80 percent custom combined and hauled and 20 percent combined and hauled with owned equipment.

Table 42 --Wheat: Estimated inputs and variable costs, Area A1, Eastside, San Joaquin Valley Cotton Area

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	1.9	2.25	4.28
Irrigator	do.	2.0	2.00	4.00
Seed	Pound	90.	.043	3.87
Fertilizer:				
Nitrogen (N)	do.	100.	.08	8.00
Phosphorus (P_2O_5)	do.	20.	.105	2.10
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	1.8	1.40	2.52
Equipment lubricants and repairs	do.	1.8	1.10	1.98
Truck fuel, lubricants, and repairs	--	--	--	1.00
Insecticides and fungicides	Acre	.15	2.50	.38
Herbicides	do.	.4	.70	.28
Custom hire:				
Pesticide application	do.	.5	2.10	1.05
Other operations	do.	.8	3.00	2.40
Irrigation water	Acre Foot	1.7	3.50	5.95
Interest on operating expenses:				
$37.81 for 6 months at 7 percent	--	--	--	1.32
Total preharvest costs	--	--	--	39.13
Harvest costs:1/				
Labor:				
Machine operator	Hour	.3	2.25	.68
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.4	1.50	.60
Truck fuel, lubricants, and repairs	Ton	.6	.50	.30
Custom hire:				
Combining	Acre	.6	7.75	4.65
Hauling	Ton	.8	2.00	1.60
Total harvest costs	--	--	--	7.83
Total variable costs per harvested acre	--	--	--	46.96

Yield per harvested acre 48 bushels

1/ Harvest costs reflect 60 percent custom combined and hauled and 40 percent combined and hauled with owned equipment.

Table 43 --Wheat: Estimated inputs and variable costs, Area A2, Westside, San Joaquin Valley Cotton Area

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	1.7	2.25	3.82
Irrigator	do.	2.5	2.00	5.00
Seed	Pound	90.	.043	3.87
Fertilizer:				
Nitrogen (N)	do.	110.	.07	7.70
Phosphorus (P_2O_5)	do.	20.	.095	1.90
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	1.6	1.80	2.88
Equipment lubricants and repairs	do.	1.6	1.25	2.00
Truck fuel, lubricants, and repairs	--	--	--	.65
Insecticides and fungicides	Acre	.15	2.50	.38
Herbicides	do.	.4	.70	.28
Custom hire:				
Pesticide application	do.	.5	2.10	1.05
Other operations	do.	.8	2.50	2.00
Irrigation water	Acre Foot	2.1	9.00	18.90
Interest on operating expenses:				
$50.43 for 6 months at 7 percent	--	--	--	1.77
Total preharvest costs	--	--	--	52.20
Harvest costs:1/				
Labor:				
Machine operator	Hour	.7	2.25	1.58
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.75	1.50	1.12
Truck fuel, lubricants, and repairs	Ton	1.35	.50	.68
Custom hire:				
Combining	Acre	.25	8.25	2.06
Hauling	Ton	.45	2.40	1.08
Total harvest costs	--	--	--	6.52
Total variable costs per harvested acre	--	--	--	58.72

Yield per harvested acre 60 bushels

1/ Harvest costs reflect 25 percent custom combined and hauled and 75 percent combined and hauled with owned equipment.

Table 44 --Wheat: Estimated inputs and variable costs, Area A3, Central Kern County, San Joaquin Valley Cotton Area

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	1.9	2.25	4.28
Irrigator	do.	2.5	2.00	5.00
Seed	Pound	90.	.043	3.87
Fertilizer:				
Nitrogen (N)	do.	100.	.075	7.50
Phosphorus (P_2O_5)	do.	20.	.10	2.00
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	1.8	1.70	3.06
Equipment lubricants and repairs	do.	1.8	1.25	2.25
Truck fuel, lubricants, and repairs	--	--	--	1.00
Insecticides and fungicides	Acre	.15	2.50	.38
Herbicides	do.	.4	.70	.28
Custom hire:				
Pesticide application	do.	.5	2.10	1.05
Other operations	do.	.8	2.75	2.20
Irrigation water	Acre Foot	2.1	5.50	11.55
Interest on operating expenses:				
$44.42 for 6 months at 7 percent	--	--	--	1.55
Total preharvest costs	--	--	--	45.97
Harvest costs:1/				
Labor:				
Machine operator	Hour	.3	2.25	.68
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.4	1.50	.60
Truck fuel, lubricants,and repairs	Ton	.6	.50	.30
Custom hire:				
Combining	Acre	.6	8.00	4.80
Hauling	Ton	1.0	2.00	2.00
Total harvest costs	--	--	--	8.38
Total variable costs per harvested acre	--	--	--	54.35

Yield per harvested acre 53 bushels

1/ Harvest costs reflect 60 percent custom combined and hauled and 40 percent combined and hauled with owned equipment.

Table 45 --Wheat: Estimated inputs and variable costs, Area B, Low Desert

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	1.8	2.15	3.87
Irrigator	do.	3.6	1.90	6.84
Seed	Pound	100.	.044	4.40
Fertilizer:				
Nitrogen (N)	do.	175.	.07	12.25
Phosphorus (P_2O_5)	do.	60.	.10	6.00
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	1.7	1.70	2.89
Equipment lubricants and repairs	do.	1.7	.90	1.53
Truck fuel, lubricants, and repairs	--	--	--	.85
Insecticides and fungicides	Acre	.4	1.75	.70
Herbicides	do.	.25	.65	.16
Custom hire:				
Pesticide application	do.	.65	2.00	1.30
Other operations	do.	1.1	3.00	3.30
Irrigation water	Acre Foot	3.3	2.50	8.25
Interest on operating expenses:				
$52.34 for 6 months at 7 percent	--	--	--	1.83
Total preharvest costs	--	--	--	54.17
Harvest costs:1/				
Labor:				
Machine operator	Hour	.3	2.15	.64
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.3	1.50	.45
Truck fuel, lubricants, and repairs	Ton	.6	.50	.30
Custom hire:				
Combining	Acre	.7	8.50	5.95
Hauling	Ton	1.4	2.40	3.36
Total harvest costs	--	--	--	10.70
Total variable costs per harvested acre	--	--	--	64.87

Yield per harvested acre 67 bushels

1/ Harvest costs reflect 70 percent custom combined and hauled and 30 percent combined and hauled with owned equipment.

Table 46 --Wheat: Estimated inputs and variable costs, Area C, Central Arizona

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	2.4	2.10	5.04
Irrigator	do.	4.5	1.70	7.65
Seed	Pound	100.	.046	4.60
Fertilizer:				
Nitrogen (N)	do.	130.	.075	9.75
Phosphorus (P_2O_5)	do.	45.	.095	4.28
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	2.2	1.60	3.52
Equipment lubricants and repairs	do.	2.2	.85	1.87
Truck fuel, lubricants, and repairs	--	--	--	1.00
Insecticides and fungicides	Acre	.15	2.50	.38
Herbicides	do.	.1	1.25	.12
Custom hire:				
Pesticide application	do.	.15	1.35	.20
Other operations	do.	.4	2.00	.80
Irrigation water	Acre Foot	3.0	1/	22.80
Interest on operating expenses:				
$62.01 for 6 months at 7 percent	--	--	--	2.17
Total preharvest costs	--	--	--	64.18
Harvest costs: 2/				
Labor:				
Machine operator	Hou	.3	2.10	.63
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.3	1.50	.45
Truck fuel, lubricants, and repairs	Ton	.6	.50	.30
Custom hire:				
Combining	Acre	.7	7.00	4.90
Hauling	Ton	1.4	2.00	2.80
Total harvest costs	--	--	--	9.08
Total variable costs per harvested acre	--	--	--	73.26

Yield per harvested acre 66 bushels

1/First 0.3 acre foot of water at $1.75 per acre foot, representing cheap Salt River Project water; remainder of water at $8.25 per acre foot.

2/Harvest costs reflect 70 percent custom combining and hauling and 30 percent combined and hauled with owned equipment.

Table 47 --Wheat: Estimated inputs and variable costs, Area F, High Southern Desert

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	2.7	1.85	5.00
Irrigator	do.	5.1	1.55	7.90
Seed	Pound	100.	.046	4.60
Fertilizer:				
Nitrogen (N)	do.	160.	.07	11.20
Phosphorus (P_2O_5)	do.	40.	.095	3.80
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	2.6	1.40	3.64
Equipment lubricants and repairs	do.	2.6	.80	2.08
Truck fuel, lubricants, and repairs	--	--	--	1.75
Insecticides and fungicides	Acre	.5	2.00	1.00
Herbicides	do.	.1	1.00	.10
Custom hire:				
Pesticide application	do.	.55	1.35	.74
Other operations	do.	.2	2.35	.47
Irrigation water	Acre Foot	2.2	7.50	16.50
Interest on operating expenses:				
$58.78 for 8 months at 7 percent	--	--	--	2.76
Total preharvest costs	--	--	--	61.54
Harvest costs:1/				
Labor:				
Machine operator	Hour	.4	1.85	.74
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.5	1.50	.75
Truck fuel, lubricants, and repairs	Ton	.9	.50	.45
Custom hire:				
Combining	Acre	.5	7.00	3.50
Hauling	Ton	.9	2.00	1.80
Total harvest costs	--	--	--	7.24
Total variable costs per harvested acre	--	--	--	68.78

Yield per harvested acre 62 bushels

1/ Harvest costs reflect 50 percent custom combined and hauled and 50 percent combined and hauled with owned equipment.

Table 4c -- Wheat: Estimated inputs and variable costs, Area J1, Curry County, High Plains

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:				
Labor:				
Machine operator	Hour	2.2	1.85	4.07
Irrigator	do.	3.7	1.40	5.18
Seed	Pound	70.	.046	3.22
Fertilizer:				
Nitrogen (N)	do.	145.	.065	9.42
Phosphorus (P_2O_5)	do.	30.	.09	2.70
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	2.2	1.60	3.52
Equipment lubricants and repairs	do.	2.2	1.05	2.31
Truck fuel, lubricants, and repairs	--	--	--	1.75
Insecticides and fungicides	Acre	.65	1.00	.65
Herbicides	do.	.1	.75	.08
Custom hire:				
Pesticide application	do.	.75	1.35	1.01
Other operations	do.	.6	2.00	1.20
Irrigation water	Acre Foot	1.7	5.50	9.35
Interest on operating expenses:				
$44.46 for 9 months at 7 percent	--	--	--	2.31
Total preharvest costs	--	--	--	46.77
Harvest costs: 1/				
Labor:				
Machine operator	Hour	.2	1.85	.37
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.2	1.50	.30
Truck fuel, lubricants, and repairs	Bushel	10.7	.015	.16
Custom hire:				
Combining	do.	42.8	.10	4.28
Hauling	do.	42.8	.06	2.57
Total harvest costs	--	--	--	7.68
Total variable costs per harvested acre	--	--	--	54.45

Yield per harvested acre 53.5 bushels

1/ Harvest costs reflect 80 percent custom combined and hauled and 20 percent combined and hauled with owned equipment.

Table 49 --Wheat: Estimated inputs and variable costs, Area J2, Counties other than Curry, High Plains

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	2.0	1.85	3.70
Irrigator	do.	3.7	1.40	5.18
Seed	Pound	70.	.046	3.22
Fertilizer:				
Nitrogen (N)	do.	110.	.065	7.15
Phosphorus (P_2O_5)	do.	15.	.09	1.35
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	2.0	1.50	3.00
Equipment lubricants and repairs	do.	2.0	1.00	2.00
Truck fuel, lubricants, and repairs	--	--	--	1.75
Insecticides and fungicides	Acre	.65	1.00	.65
Herbicides	do.	.05	.75	.04
Custom hire:				
Pesticide application	do.	.7	1.35	.94
Other operations	do.	.5	2.00	1.00
Irrigation water	Acre Foot	1.7	5.50	9.35
Interest on operating expenses:				
$39.33 for 9 months at 7 percent	--	--	--	2.05
Total preharvest costs	--	--	--	41.38
Harvest costs:1/				
Labor:				
Machine operator	Hour	.2	1.85	.37
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.3	1.50	.45
Truck fuel, lubricants, and repairs	Bushel	13.2	.015	.20
Custom hire:				
Combining	do.	30.8	.10	3.08
Hauling	do.	30.8	.06	1.85
Total harvest costs	--	--	--	5.95
Total variable costs per harvested acre	--	--	--	47.33

Yield per harvested acre 44 bushels

1/ Harvest costs reflect 70 percent custom combined and hauled and 30 percent combined and hauled with owned equipment.

Table 50 --Alfalfa hay: Estimated inputs and variable costs, Area A1, Eastside, San Joaquin Valley Cotton Area

Category	Unit	Quantity	Price	Value
Preharvest costs:1/			Dollars	Dollars
Labor:				
Machine operator	Hour	1.1	2.25	2.48
Irrigator	do.	6.0	2.00	12.00
Seed	Pound	7.	.63	4.41
Fertilizer:				
Nitrogen (N)	do.	5.	.09	.45
Phosphorus (P_2O_5)	do.	50.	.105	5.25
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	1.0	1.40	1.40
Equipment lubricants and repairs	do.	1.0	1.00	1.00
Truck fuel, lubricants, and repairs	--	--	--	1.75
Insecticides and fungicides	Acre	.45	2.25	1.01
Herbicides	do.	.15	5.75	.86
Custom hire:				
Pesticide application	do.	.5	2.10	1.05
Other operations	do.	.8	3.00	2.40
Irrigation water	Acre Foot	5.0	3.50	17.50
Interest on operating expenses:				
$51.56 for 6 months at 7 percent	--	--	--	1.80
Total preharvest costs	--	--	--	53.36
Harvest costs:2/				
Labor:				
Machine operator	Hour	1.8	2.25	4.05
Power and equipment:				
Fuel, lubricants, and repairs	--	--	--	6.00
Custom hire:				
Swath	Acre	2.7	2.25	6.08
Turn windrows	do.	2.4	.50	1.20
Bale	Ton	3.0	4.00	12.00
Haul and stack	do.	3.6	1.75	6.30
Other expenses:				
Baling wire	do.	3.0	1.00	3.00
Total harvest costs	--	--	--	38.63
Total variable costs per harvested acre	--	--	--	91.99

Yield per harvested acre 6.0 tons

1/ Costs of establishment are prorated over 3 years.

2/ Harvest costs reflect the following methods of harvesting (6 cuttings):

Operation	Percent of production	
	With owned equipment	Custom hire
Mow and rake	10	0
Swath	45	45
Turn windrows	40	40
Bale	50	50
Haul and stack	30	60

Table 51 --Alfalfa hay: Estimated inputs and variable costs, Area A2, Westside, San Joaquin Valley Cotton Area

Category	Unit	Quantity	Price	Value
Preharvest costs:1/			Dollars	Dollars
Labor:				
Machine operator	Hour	1.0	2.25	2.25
Irrigator	do.	6.4	2.00	12.80
Seed	Pound	7.	.63	4.41
Fertilizer:				
Nitrogen (N)	do.	5.	.08	.40
Phosphorus (P_2O_5)	do.	50.	.10	5.00
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	.9	1.80	1.62
Equipment lubricants and repairs	do.	.9	1.15	1.04
Truck fuel, lubricants, and repairs	--	--	--	1.25
Insecticides and fungicides	Acre	.45	2.25	1.01
Herbicides	do.	.15	5.75	.86
Custom hire:				
Pesticide application	do.	.5	2.10	1.05
Other operations	do.	.7	2.50	1.75
Irrigation water	Acre Foot	5.3	9.00	47.70
Interest on operating expenses:				
$81.14 for 5 months at 7 percent	--	--	--	2.35
Total preharvest costs	--	--	--	83.49
Harvest costs:2/				
Labor:				
Machine operator	Hour	1.8	2.25	4.05
Power and equipment:				
Fuel, lubricants, and repairs	--	--	--	6.00
Custom hire:				
Swath	Acre	2.7	2.25	6.08
Turn windrows	do.	2.4	.50	1.20
Bale	Ton	3.0	4.00	12.00
Haul and stack	do.	3.6	1.75	6.30
Other expenses:				
Baling wire	do.	3.0	1.00	3.00
Total harvest costs	--	--	--	38.63
Total variable costs per harvested acre	--	--	--	122.12

Yield per harvested acre 6.0 tons

1/ Costs of establishment are prorated over 3 years.

2/ Harvest costs reflect the following methods of harvesting (6 cuttings):

Operation	Percent of production	
	With owned equipment	Custom hire
Mow and rake	10	0
Swath	45	45
Turn windrows	40	40
Bale	50	50
Haul and stack	30	60

Table 52 --Alfalfa hay: Estimated inputs and variable costs, Area A3, Central Kern County, San Joaquin Valley Cotton Area

Category	Unit	Quantity	Price	Value
Preharvest costs:1/			Dollars	Dollars
Labor:				
Machine operator	Hour	1.0	2.25	2.25
Irrigator	do.	6.4	2.00	12.80
Seed	Pound	7.	.63	4.41
Fertilizer:				
Nitrogen (N)	do.	5.	.085	.42
Phosphorus (P_2O_5)	do.	30.	.10	3.00
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	.9	1.70	1.53
Equipment lubricants and repairs	do.	.9	1.15	1.04
Truck fuel, lubricants, and repairs	--	--	--	2.00
Insecticides and fungicides	Acre	.45	2.25	1.01
Herbicides	do.	.15	5.75	.86
Custom hire:				
Pesticide application	do.	.5	2.10	1.05
Other operations	do.	.7	2.75	1.92
Irrigation water	Acre Foot	5.3	5.50	29.15
Interest on operating expenses:				
$61.44 for 5 months at 7 percent	--	--	--	1.78
Total preharvest costs	--	--	--	63.22
Harvest costs:2/				
Labor:				
Machine operator	Hour	1.8	2.25	4.05
Power and equipment:				
Fuel, lubricants, and repairs	--	--	--	6.00
Custom hire:				
Swath	Acre	2.9	2.25	6.52
Turn windrows	do.	2.6	.50	1.30
Bale	Ton	4.5	4.00	18.00
Haul and stack	do.	5.5	1.75	9.62
Other expenses:				
Baling wire	do.	2.4	1.00	2.40
Total harvest costs	--	--	--	47.89
Total variable costs per harvested acre	--	--	--	111.11

Yield per harvested acre 6.9 tons

1/ Costs of establishment are prorated over 3 years.

2/ Harvest costs reflect the following methods of harvesting (6.5 cuttings):

Operation	Percent of production	
	With owned equipment	Custom hire
Mow and rake	10	0
Swath	45	45
Turn windrows	40	40
Bale	35	65
Haul and stack	20	80

Table 53 --Alfalfa hay: Estimated inputs and variable costs, Area B, Low Desert

Category	Unit	Quantity	Price	Value
Preharvest costs:1/			Dollars	Dollars
Labor:				
Machine operator	Hour	1.3	2.15	2.80
Irrigator	do.	8.2	1.90	15.58
Seed	Pound	11.	.62	6.82
Fertilizer:				
Nitrogen (N)	do.	10.	.085	.85
Phosphorus (P_2O_5)	do.	80.	.10	8.00
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	1.1	1.70	1.87
Equipment lubricants and repairs	do.	1.1	1.10	1.21
Truck fuel, lubricants, and repairs	--	--	--	1.50
Insecticides and fungicides	Acre	1.0	2.25	2.25
Herbicides	do.	.1	8.00	.80
Custom hire:				
Pesticide application	do.	1.1	2.00	2.20
Other operations	do.	.7	3.00	2.10
Irrigation water	Acre Foot	7.5	2.50	18.75
Interest on operating expenses:				
$64.73 for 5 months at 7 percent	--	--	--	1.88
Total preharvest costs	--	--	--	66.61
Harvest costs:2/				
Labor:				
Machine operator	Hour	2.6	2.15	5.59
Power and equipment:				
Fuel, lubricants, and repairs	--	--	--	8.25
Custom hire:				
Swath	Acre	2.3	3.00	6.90
Turn windrows	do.	2.3	.50	1.15
Bale	Ton	2.6	4.00	10.40
Haul and stack	do.	2.9	1.75	5.08
Other expenses:				
Baling wire	do.	3.9	1.00	3.90
Total harvest costs	--	--	--	41.27
Total variable costs per harvested acre	--	--	--	107.88

Yield per harvested acre 6.5 tons

1/ Costs of establishment are prorated over 3 years.

2/ Harvest costs reflect the following methods of harvesting (6.5 cuttings):

Operation	Percent of production	
	With owned equipment	Custom hire
Mow and rake	10	0
Swath	55	35
Turn windrows	65	35
Bale	60	40
Haul and stack	50	45

Table 54 --Alfalfa hay: Estimated inputs and variable costs, Area C, Central Arizona

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:1/				
Labor:				
Machine operator	Hour	1.4	2.10	2.94
Irrigator	do.	9.8	1.70	16.66
Seed	Pound	9.	.61	5.49
Fertilizer:				
Nitrogen (N)	do.	10.	.085	.85
Phosphorus (P_2O_5)	do.	50.	.095	4.75
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	1.2	1.60	1.92
Equipment lubricants and repairs	do.	1.2	1.05	1.26
Truck fuel, lubricants, and repairs	--	--	--	1.75
Insecticides and fungicides	Acre	.4	2.00	.80
Herbicides	do.	.05	6.00	.30
Custom hire:				
Pesticide application	do.	.35	1.35	.47
Other operations	do.	.5	2.00	1.00
Irrigation water	Acre Foot	6.5	2/	45.82
Interest on operating expenses:				
$84.01 for 5 months at 7 percent	--	--	--	2.44
Total preharvest costs	--	--	--	86.45
Harvest costs:3/				
Labor:				
Machine operator	Hour	1.8	2.10	3.78
Power and equipment:				
Fuel, lubricants, and repairs	--	--	--	6.00
Custom hire:				
Swath	Acre	3.0	2.50	7.50
Turn windrows	do.	3.0	.50	1.50
Bale	Ton	3.0	4.00	12.00
Haul and stack	do.	3.3	1.75	5.78
Other expenses:				
Baling wire	do.	3.0	1.15	3.45
Total harvest costs	--	--	--	40.01
Total variable costs per harvested acre	--	--	--	126.46

Yield per harvested acre 6.0 tons

1/ Costs of establishment are prorated over 3 years.

2/ First 1.2 acre foot of water at $1.75 per acre foot, representing cheap Salt River Project water; remainder of water at $8.25 per acre foot.

3/ Harvest costs reflect the following methods of harvesting (6 cuttings):

Operation	Percent of production	
	With owned equipment	Custom hire
Mow and rake	5	0
Swath	45	50
Turn windrows	50	50
Bale	50	50
Haul and stack	40	55

Table 55 --Alfalfa hay: Estimated inputs and variable costs, Area F, High Southern Desert

Category	Unit	Quantity	Price	Value
Preharvest costs:1/			Dollars	Dollars
Labor:				
Machine operator	Hour	1.1	1.85	2.04
Irrigator	do.	11.5	1.55	17.82
Seed	Pound	5.	.60	3.00
Fertilizer:				
Nitrogen (N)	do.	5.	.085	.42
Phosphorus (P_2O_5)	do.	35.	.095	3.32
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	1.0	1.40	1.40
Equipment lubricants and repairs	do.	1.0	.95	.95
Truck fuel, lubricants, and repairs	--	--	--	3.00
Insecticides and fungicides	Acre	.2	1.50	.30
Herbicides	do.	.05	6.00	.30
Custom hire:				
Pesticide application	do.	.15	1.35	.20
Other operations	do.	.3	2.35	.70
Irrigation water	Acre Foot	5.0	7.50	37.50
Interest on operating expenses:				
$70.95 for 5 months at 7 percent	--	--	--	2.06
Total preharvest costs	--	--	--	73.01
Harvest costs:2/				
Labor:				
Machine operator	Hour	2.6	1.85	4.81
Power and equipment:				
Fuel, lubricants, and repairs	--	--	--	7.00
Custom hire:				
Swath	Acre	1.2	3.00	3.60
Bale	Ton	1.2	4.50	5.40
Haul and stack	do.	2.1	3.00	6.30
Other expenses:				
Baling wire	do.	3.5	1.25	4.38
Total harvest costs	--	--	--	31.49
Total variable costs per harvested acre	--	--	--	104.50

Yield per harvested acre 4.7 tons

1/ Costs of establishment are prorated over 4 years.

2/ Harvest costs reflect the following methods of harvesting (5 cuttings):

Operation	Percent of production: With owned equipment	Percent of production: Custom hire
Mow and rake	15	0
Swath	60	25
Turn windrows	40	0
Bale	75	25
Haul and stack by machine	40	45
Haul and stack by hand	10	0

Table 56 --Alfalfa hay: Estimated inputs and variable costs, Area G, Rio Grande Valley

Category	Unit	Quantity	Price	Value
Preharvest costs:1/			Dollars	Dollars
Labor:				
Machine operator	Hour	2.2	1.80	3.96
Irrigator	do.	6.0	1.50	9.00
Seed	Pound	7.	.58	4.06
Fertilizer:				
Nitrogen (N)	do.	10.	.08	.80
Phosphorus (P_2O_5)	do.	75.	.09	6.75
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	2.1	1.30	2.73
Equipment lubricants and repairs	do.	2.1	.75	1.58
Truck fuel, lubricants, and repairs	--	--	--	2.25
Insecticides and fungicides	Acre	.4	1.50	.60
Herbicides	do.	.05	6.00	.30
Custom hire:				
Pesticide application	do.	.3	1.35	.40
Other operations	do.	.6	2.35	1.41
Irrigation water 2/	Acre Foot	3.3	3.00	9.90
Interest on operating expenses:				
$43.74 for 6 months at 7 percent	--	--	--	1.53
Total preharvest costs	--	--	--	45.27
Harvest costs:3/				
Labor:				
Machine operator	Hour	2.2	1.80	3.96
Power and equipment:				
Fuel, lubricants, and repairs	--	--	--	5.75
Custom hire:				
Swath	Acre	2.2	2.50	5.50
Bale	Ton	2.1	4.50	9.45
Haul and stack	do.	1.3	2.50	3.25
Other expenses:				
Baling wire	do.	3.1	1.00	3.10
Total harvest costs	--	--	--	31.01
Total variable costs per harvested acre	--	--	--	76.28
Yield per harvested acre	5.2 tons			

1/ Costs of establishment are prorated over 3 years.

2/ This does not include a fixed charge of $11.00 per acre levied by Elephant Butte Irrigation District for delivery of an average of 1.7 acre-foot per acre per year.

3/ Harvest costs reflect the following methods of harvesting (5.5 cuttings):

Operation	Percent of production: With owned equipment	Percent of production: Custom hire
Mow and rake	15	0
Swath	45	40
Turn windrows	10	0
Bale	60	40
Haul and stack by machine	25	25
Haul and stack by hand	10	0

Table 57 --Alfalfa hay: Estimated inputs and variable costs, Area H, Pecos Valley

Category	Unit	Quantity	Price	Value
			Dollars	Dollars
Preharvest costs:1/				
Labor:				
Machine operator	Hour	1.3	1.95	2.54
Irrigator	do.	8.9	1.45	12.90
Seed	Pound	5.	.58	2.90
Fertilizer:				
Nitrogen (N)	do.	10.	.08	.80
Phosphorus (P_2O_5)	do.	95.	.09	8.55
Potash (K_2O)	do.	5.	.05	.25
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	1.2	1.25	1.50
Equipment lubricants and repairs	do.	1.2	.80	.96
Truck fuel, lubricants, and repairs	--	--	--	2.75
Insecticides and fungicides	Acre	.67	1.50	1.00
Herbicides	do.	.05	6.00	.30
Custom hire:				
Pesticide application	do.	.45	1.35	.61
Other operations	do.	.8	3.00	2.40
Irrigation water	Acre Foot	4.7	4.00	18.80
Interest on operating expenses:				
$56.26 for 6 months at 7 percent	--	--	--	1.97
Total preharvest costs	--	--	--	58.23
Harvest costs:2/				
Labor:				
Machine operator	Hour	4.0	1.95	7.80
Power and equipment:				
Fuel, lubricants, and repairs	--	--	--	10.00
Custom hire:				
Swath	Acre	1.1	2.50	2.75
Bale	Ton	1.2	4.50	5.40
Other expenses:				
Baling wire	do.	4.8	1.00	4.80
Total harvest costs	--	--	--	30.75
Total variable costs per harvested acre	--	--	--	88.98

Yield per harvested acre 6.0 tons

1/ Costs of establishment are prorated over 4 years.

2/ Harvest costs reflect the following methods of harvesting (5.5 cuttings):

Operation	Percent of production	
	With owned equipment	Custom hire
Mow and rake	5	0
Swath	75	20
Turn windrows	10	0
Bale	80	20
Bunch bales	80	0
Haul and stack by machine	10	0
Haul and stack by hand	33	0

Table 58 --Alfalfa hay: Estimated inputs and variable costs, Area J2, Counties other than Curry, High Plains

Category	Unit	Quantity	Price	Value
Preharvest costs:1/			Dollars	Dollars
Labor:				
Machine operator	Hour	0.5	1.85	.92
Irrigator	do.	11.9	1.40	16.66
Seed	Pound	4.	.58	2.32
Fertilizer:				
Nitrogen (N)	do.	10.	.08	.80
Phosphorus (P_2O_5)	do.	95.	.09	8.55
Potash (K_2O)	do.	5.	.07	.35
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	.5	1.50	.75
Equipment lubricants and repairs	do.	.5	1.00	.50
Truck fuel, lubricants, and repairs	--	--	--	3.75
Insecticides and fungicides	Acre	.3	1.50	.45
Herbicides	do.	.05	6.00	.30
Custom hire:				
Pesticide application	do.	.2	1.35	.27
Other operations	do.	.5	2.00	1.00
Irrigation water	Acre Foot	3.6	5.50	19.80
Interest on operating expenses:				
$56.42 for 5 months at 7 percent	--	--	--	1.64
Total preharvest costs	--	--	--	58.06
Harvest costs:2/				
Labor:				
Machine operator	Hour	2.0	1.85	3.70
Power and equipment:				
Fuel, lubricants, and repairs	--	--	--	6.25
Custom hire:				
Swath	Acre	1.1	2.50	2.75
Bale	Ton	1.4	4.50	6.30
Haul and stack	do.	1.1	2.50	2.75
Other expenses:				
Baling wire	do.	3.1	1.00	3.10
Total harvest costs	--	--	--	24.85
Total variable costs per harvested acre	--	--	--	82.91

Yield per harvested acre 4.5 tons

1/ Costs of establishment are prorated over 6 years.

2/ Harvest costs reflect the following methods of harvesting (4.5 cuttings):

Operation	Percent of production: With owned equipment	Percent of production: Custom hire
Mow and rake	10	0
Swath	65	25
Turn windrows	10	0
Bale	70	30
Haul and stack by machine	25	25
Haul and stack by hand	10	0

Table 59 --Safflower: Estimated inputs and variable costs, Area A2, Westside, San Joaquin Valley Cotton Area

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	2.0	2.25	4.50
Irrigator	do.	3.8	2.00	7.60
Seed	Pound	32.	.12	3.84
Fertilizer:				
Nitrogen (N)	do.	100.	.07	7.00
Phosphorus (P_2O_5)	do.	2.	.095	.19
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	1.9	1.80	3.42
Equipment lubricants and repairs	do.	1.9	1.25	2.38
Truck fuel, lubricants, and repairs	--	--	--	1.00
Insecticides and fungicides	Acre	.8	2.00	1.60
Herbicides	do.	.05	4.00	.20
Custom hire:				
Pesticide application	do.	.8	2.10	1.68
Other operations	do.	.7	2.50	1.75
Irrigation water	Acre Foot	3.0	9.00	27.00
Interest on operating expenses:				
$62.16 for 7 months at 7 percent	--	--	--	2.55
Total preharvest costs	--	--	--	64.71
Harvest costs:1/				
Labor:				
Machine operator	Hour	.7	2.25	1.58
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.75	1.50	1.12
Truck fuel, lubricants, and repairs	Ton	.8	.50	.40
Custom hire:				
Combining	Acre	.25	8.75	2.19
Hauling	Ton	.3	2.40	.72
Total harvest costs	--	--	--	6.01
Total variable costs per harvested acre	--	--	--	70.72

Yield per harvested acre 2200 pounds

1/ Harvest costs reflect 25 percent custom combined and hauled and 75 percent combined and hauled with owned equipment.

Table 60 --Safflower: Estimated inputs and variable costs, Area C, Central Arizona

Category	Unit	Quantity	Price	Value
Preharvest costs:			Dollars	Dollars
Labor:				
Machine operator	Hour	3.2	2.10	6.72
Irrigator	do.	6.7	1.70	11.39
Seed	Pound	23.	.12	2.76
Fertilizer:				
Nitrogen (N)	do.	150.	.065	9.75
Phosphorus (P_2O_5)	do.	2.	.09	.18
Power and equipment:				
Tractor fuel, lubricants, and repairs	Hour	3.0	1.60	4.80
Equipment lubricants and repairs	do.	3.0	.85	2.55
Truck fuel, lubricants, and repairs	--	--	--	1.50
Insecticides and fungicides	Acre	.05	2.00	.10
Herbicides	do.	.9	4.00	3.60
Custom hire:				
Pesticide application	do.	.5	1.35	.68
Other operations	do.	.4	2.00	.80
Irrigation water	Acre Foot	4.2	1/	33.35
Interest on operating expenses:				
$78.18 for 7 months at 7 percent	--	--	--	3.21
Total preharvest costs	--	--	--	81.39
Harvest costs:2/				
Labor:				
Machine operator	Hour	.3	2.10	.63
Power and equipment:				
Combine fuel, lubricants, and repairs	Acre	.3	1.50	.45
Truck fuel, lubricants, and repairs	Ton	.4	.50	.20
Custom hire:				
Combining	Acre	.7	9.00	6.30
Hauling	Ton	.9	2.00	1.80
Total harvest costs	--	--	--	9.38
Total variable costs per harvested acre	--	--	--	90.77

Yield per harvested acre 2500 pounds

1/ First 0.2 acre foot of water at $1.75 per acre foot, representing cheap Salt River Project water; remainder of water at $8.25 per acre foot.

2/ Harvest costs reflect 70 percent custom combined and hauled and 30 percent combined and hauled with owned equipment.

Table 61 --Cotton varieties planted, quality of cotton produced, and prices received by farmers for upland cotton in the Southwest, 1969

Area	Principal varieties planted	Average staple length	Average grade index	Average fiber strength	Pct. of micronaire readings below 3.5 and above 4.9	Average price per pound
		32nd. inch	No.	Mpsi	Pct.	Cents
A. San Joaquin Valley Cotton Area	Acala SJ-1	35.1	94.7	100.4	5.1	22.6
B. Low Desert	Deltapine 16	33.7	92.8	85.0	7.0	20.0
C. Central Arizona	Deltapine 16	33.9	93.2	84.1	17.6	21.1
F, G, and H. High Southern Desert, Rio Grande Valley, and Pecos Valley	Acala 1517 C, D, and V	36.3	95.2	91.3	17.0	22.9
J. High Plains	Acala 1517 BR-2; Paymaster 202	34.6	87.6	1/	1/	20.2
U. S. average		33.5	91.0	86.1	23.1	20.4

1/ Data not available.

Data on cotton varieties from Cotton Varieties Planted, 1965-1969, Consumer and Marketing Service, U. S. Department of Agriculture, July 1969. Data on cotton quality from Cotton Quality, Crop of 1969, Consumer and Marketing Service, U. S. Department of Agriculture, Vol. 43, No. 7, August 1970. Data on prices received from 1969 cotton cost survey, Farm Production Economics Division, Economic Research Service, U. S. Department of Agriculture.

Table 6- --Prices received by farmers in Southwest region for feed grains, wheat, and alfalfa hay compared with U.S. average prices, 1967-71

Item	Barley	Grain sorghum	Corn	Wheat	Alfalfa hay
	---------Dollars per bushel---------				Dollars per ton
Prices received by farmers:					
California	1.20	1.31	1.44	1.46	29.30
Arizona	1.21	1.27	1/	1.49	29.40
New Mexico	1.07	1.08	1/	1.33	29.90
U.S. average	.94	1.04	1.13	1.30	24.50
Price differentials between Southwest and U.S. average prices:					
California	+.26	+.27	+.31	+.16	+4.80
Arizona	+.27	+.23	1/	+.19	+4.90
New Mexico	+.13	+.04	1/	+.03	+5.40

1/ Data omitted because corn is not an important crop in this state.

Data on barley, grain sorghum, corn, and wheat from Field and Seed Crops: Production, Farm Use, Sales, Value, by States, Annual Reports, Statistical Reporting Service, U. S. Department of Agriculture. Data on alfalfa hay from Statistical Reporting Service, U. S. Department of Agriculture.

Table 63 --Counties and resource situations in APAT production areas, Southwest Region

Area A. San Joaquin Valley Cotton Area:
Fresno County, California
Kern County, California
Kings County, California
Madera County, California
Merced County, California
Tulare County, California

Resource situations:

1. Eastside:
   Madera, Merced, and Tulare counties and those parts of Fresno and Kings counties that are not included in the "Westside".
2. Westside:
   Includes the following irrigation and water storage districts in Fresno, Kings, and Kern counties, which receive water from the California Aqueduct:
   - Westlands
   - Empire Westside
   - Tulare Lake Basin (Tulare soil association only)
   - Dudley Ridge
   - Devil's Den
   - Lost Hills
   - Berrenda Mesa
   - Belridge
   - West Kern County
   - Wheeler Ridge - Maricopa
3. Central Kern County
   Includes all of Kern County exclusive of the "Westside" irrigation and water storage districts and the Mojave Desert.

Area B. Low Desert:
Imperial County, California
Riverside County, California
Yuma County, Arizona

Area C. Central Arizona:
Maricopa County, Arizona
Pima County, Arizona
Pinal County, Arizona

Area F. High Southern Desert:
Cochise County, Arizona
Hidalgo County, New Mexico
Luna County, New Mexico

Area G. Rio Grande Valley:
Dona Ana County, New Mexico
Sierra County, New Mexico

Area H. Pecos Valley:
Chaves County, New Mexico
Eddy County, New Mexico

Area J. High Plains:
Curry County, New Mexico
Lea County, New Mexico
Quay County, New Mexico
Roosevelt County, New Mexico
Union County, New Mexico

Resource situations:

1. Curry County
2. Counties other than Curry:
   - Lea County
   - Quay County
   - Roosevelt County
   - Union County

LITERATURE CITED

1. Brown, Barry P. Vegetative Water Use, Calif. State Dept. of Water Resources Bul. No. 113-2, Aug. 1967.

2. Butler, G. D. Jr. "Information from the 1971 Cotton-Pest Management Program," Cotton Insect Biological Control Investigations: First Quarterly Report, 1972, U.S. Dept. Agr., Agr. Res. Serv., Phoenix, Ariz., unpublished rpt., pp. 17-37, 1972.

3. Burlingame, Burt B. Enterprise Data Sheets and Cost Studies Available as of July 1971, Calif. Agr. Ext. Serv. mimeo, July 1971.

4. Erie, L. J., French, Orrin F., and Harris, Karl. Consumptive Use of Water by Crops in Arizona, Ariz. Agr. Expt. Sta. Tech. Bul. 169, Sept. 1965.

5. Henderson, Donald C., and Sorensen, Earl F. Consumptive Irrigation Requirements of Selected Irrigated Areas in New Mexico, N. Mex. Agr. Expt. Sta. Bul. 531, Aug. 1968.

6. Jones, Lawrence A. Crop-Hail Insurance, 1969: Volume, Cost, Indemnities, U.S. Dept. Agr., Econ. Res. Serv., ERS-424, May 1970.

7. Lansford, Robert, and Ott, Gene O. Grain Sorghum Costs and Returns in Southwestern New Mexico, N. Mex. Agr. Ext. Serv. Plant Sci. Guide 400 A-401, Oct. 1966.

8. _____. Irrigated Wheat Costs and Returns in Curry County, N. Mex. Agr. Ext. Serv. Plant Sci. Guide 400 A-404, June 1967.

9. _____. Grain Sorghum Costs and Returns in Curry County, N. Mex. Agr. Ext. Serv. Plant Sci. Guide 400 A-405, Aug. 1967.

10. _____. Grain Sorghum Costs and Returns in Roosevelt County, N. Mex. Agr. Ext. Serv. Plant Sci. Guide 400 A-406, Aug. 1967.

11. _____. Grain Sorghum Costs and Returns Under Ditch Irrigation in Quay County, N. Mex. Agr. Ext. Serv. Plant Sci. Guide 400 A-408, May 1968.

12. _____. Irrigated Grain Sorghum Costs and Returns in Union County, N. Mex. Agr. Ext. Serv. Plant Sci. Guide 400 A-409, May 1968.

13. _____. Alfalfa Costs and Returns Under Ditch Irrigation in Quay County, N. Mex. Agr. Ext. Serv. Plant Sci. Guide 400 A-307, May 1968.

14. Lansford, Robert R., and Creel, Bobby J. Irrigation Water Requirements for Crop Production, Roswell Artesian Basin: An Economic Analysis and Basic Data, N. Mex. State Univ. WRRI Rpt. 4, Pt. II, June 1969.

15. Long, Roger B. Cost of Pumping Irrigation Water in Ten New Mexico Counties, N. Mex. Agr. Expt. Sta. Bul. 490, Mar. 1965.

16. MacGillivray, N. A. Estimates of Unit Water Requirements, Tulare Lake Basin Study Area 2, Calif. State Dept. of Water Resources, unpublished rpt., Feb. 1968.

17. Moore, C. V., and Snyder, J. H. "Irrigation Pumping Lifts in the San Joaquin Valley," California Agriculture, Vol. 19, No. 10, pp. 14-15, Oct. 1965.

18. Nelson, Aaron G. Costs and Returns for Major Field Crops in Central Arizona by Size of Farm, Ariz. Agr. Expt. Sta. Tech. Bul. 174, Aug. 1965.

19. _____, and Busch, Charles D. Cost of Pumping Irrigation Water in Central Arizona, Ariz. Agr. Expt. Sta. Tech. Bul. 182, Apr. 1967.

20. Pawson, Walter W., and Nelson, Aaron G. Economics of Skip-Row Cotton Production, Ariz. Agr. Expt. Sta. Rpt. 231, Feb. 1966.

21. Reed, A. D. Machinery Costs and Performance, Calif. Agr. Ext. Serv., AXT-336, May 1970.

22. Sartin, Marvin O. Aggregate Production Adjustment of New Mexico Cotton Farms to Alternative Price Levels--1970, N. Mex. State Univ., unpublished master's thesis, Sept. 1969.

23. _____, and Hanson, Marlin L. Aggregate Production Adjustments to Alternative Cotton Prices in New Mexico, 1970, N. Mex. Agr. Expt. Sta. Bul. 568, Nov. 1970.

24. Schaller, W. Neill, and Dean, Gerald W. Predicting Regional Crop Production--An Application of Recursive Programming, U.S. Dept. Agr. Tech. Bul. No. 1329, Apr. 1965.

25. Starbird, I. R., and French, B. L. Costs of Producing Upland Cotton in the United States, 1969, U.S. Dept. Agr., Agr. Econ. Rpt. No. 227, June 1972.

26. Wildermuth, John R., Martin, William E., and Rieck, Victor H. Costs and Returns Data for Representative General Crop Farms in Arizona, Ariz. Agr. Expt. Sta. Rpt. 253, Sept. 1969.

GOVERNMENT PRINTING OFFICE 197